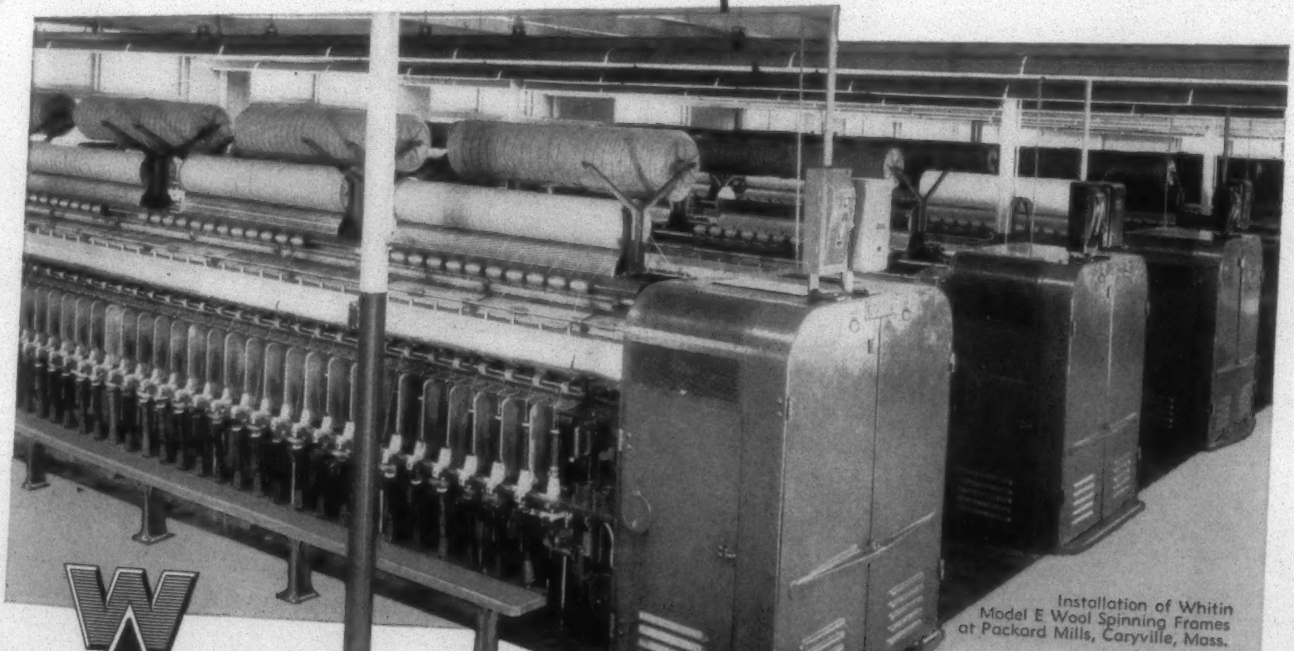
16 GOOD ways to get BETTER results from the BEST wool frames you ever owned

Whitin Model E Wool Spinning frames have been known for many years as the "work horses" of the industry. Their reputation for efficiency in producing highest quality yarn at lowest cost per pound is firmly established. However, since its introduction to the industry, many new mechanical improvements have been developed which greatly increase its overall performance. Mills which for years have relied upon the Model E now have the opportunity — and at relatively low cost, too — to get better results from these frames by installing a combination of the new parts and accessories now available.

1. "Magic-Grip" drive sprockets **2.** Oilless front top roll weight hooks **3.** Cylinder replacement pulleys **4.** No slip drum covers **5.** Simplified application for ring auto-lubrication **6.** New upright lay shafts **7.** Reworked twister heads **8.** Anti-friction twister heads **9.** Balloon control rings **10.** Anti-friction idler gears **11.** Improved thrust box for traverse motion **12.** New full-fluted type delivery rolls **13.** Adjustable roving guides and nylon B.B. inserts **14.** Simplified main shaft bearing assembly **15.** New type traverse cams **16.** Roving guide traverse motion assembly



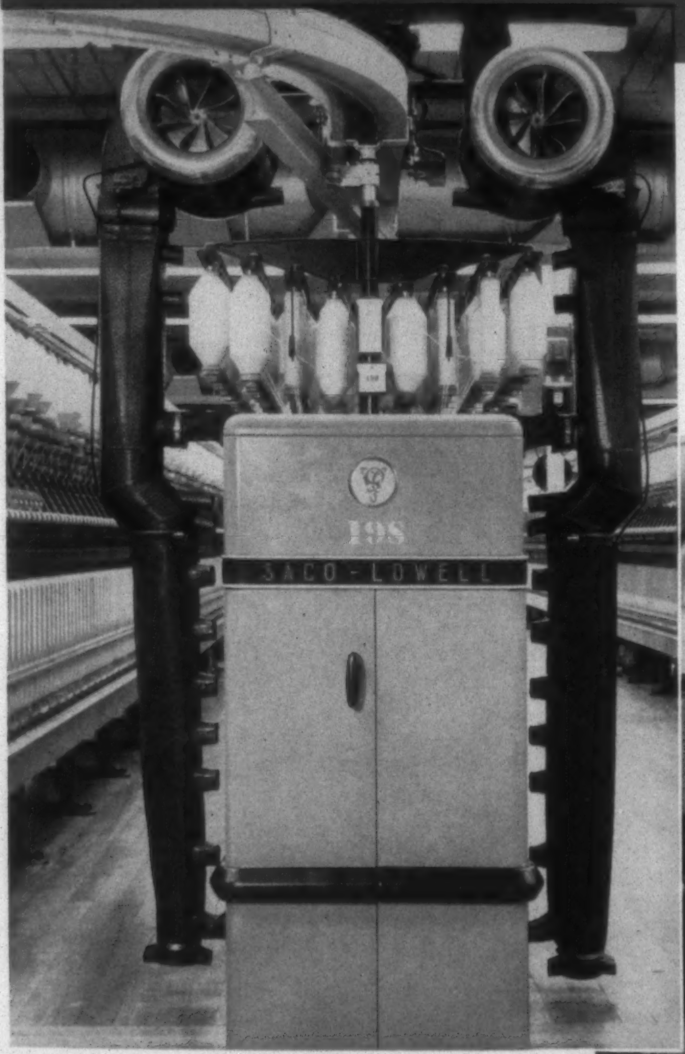
Installation of Whitin Model E Wool Spinning Frames at Packard Mills, Caryville, Mass.

For complete information, ask your Whitin representative . . . or write direct to us.

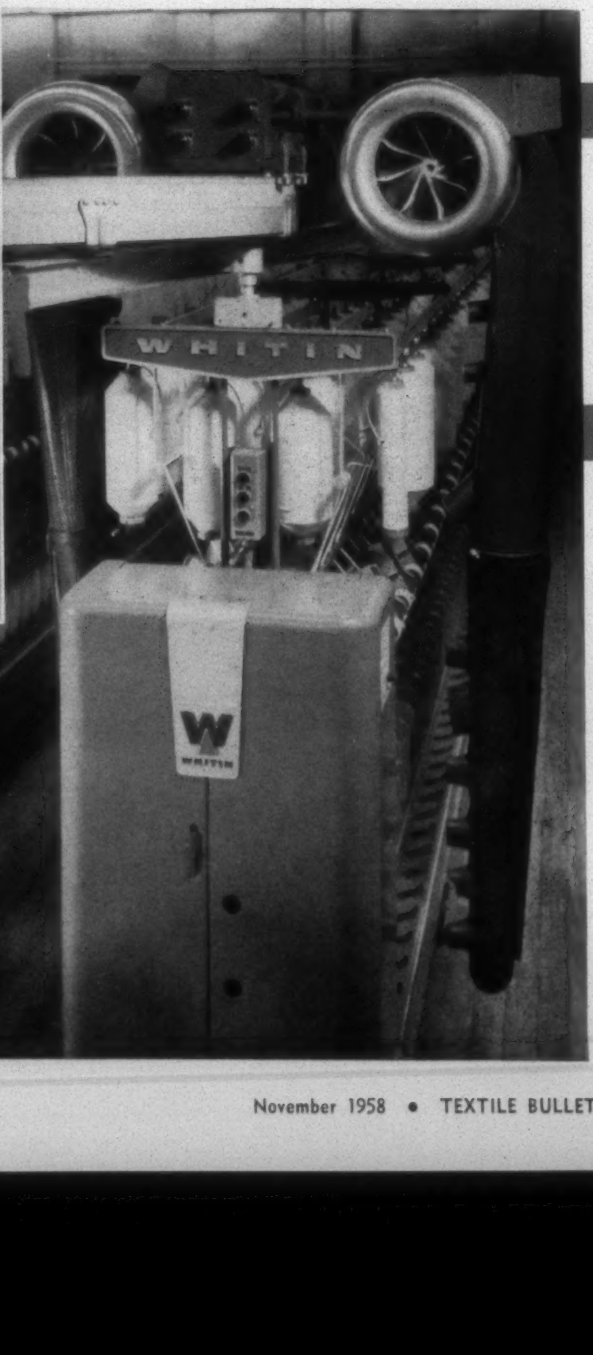
WHITIN MACHINE WORKS
WHITINSVILLE MASSACHUSETTS,
CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Bahnson AIR-O-MATION FOR

The most modern frames
with
The most modern cleaner



Bahnson Cross-Jet Cleaner Installed on Gwaltney Frame



Bahnson Cross-Jet Cleaner Installed on Piedmont Frame

TOTAL FRAME CLEANING

THE

Bahnson

CROSS-JET CLEANER

CLEANS MORE FRAMES, MORE AREA, MORE OFTEN

You get maximum advantages for frame and room cleaning

- Four fans incorporated into one compact unit
- Dual nozzles provide 180 degree overhead cleaning
- Multiple outlets for creel, drafting system, and frame
- Flexible extended nozzles with automatic stop-and-go control
- High air handling capacity—adjustable for your needs
- Automatic fan shut-off for any desired track section

You get extra value with superior features

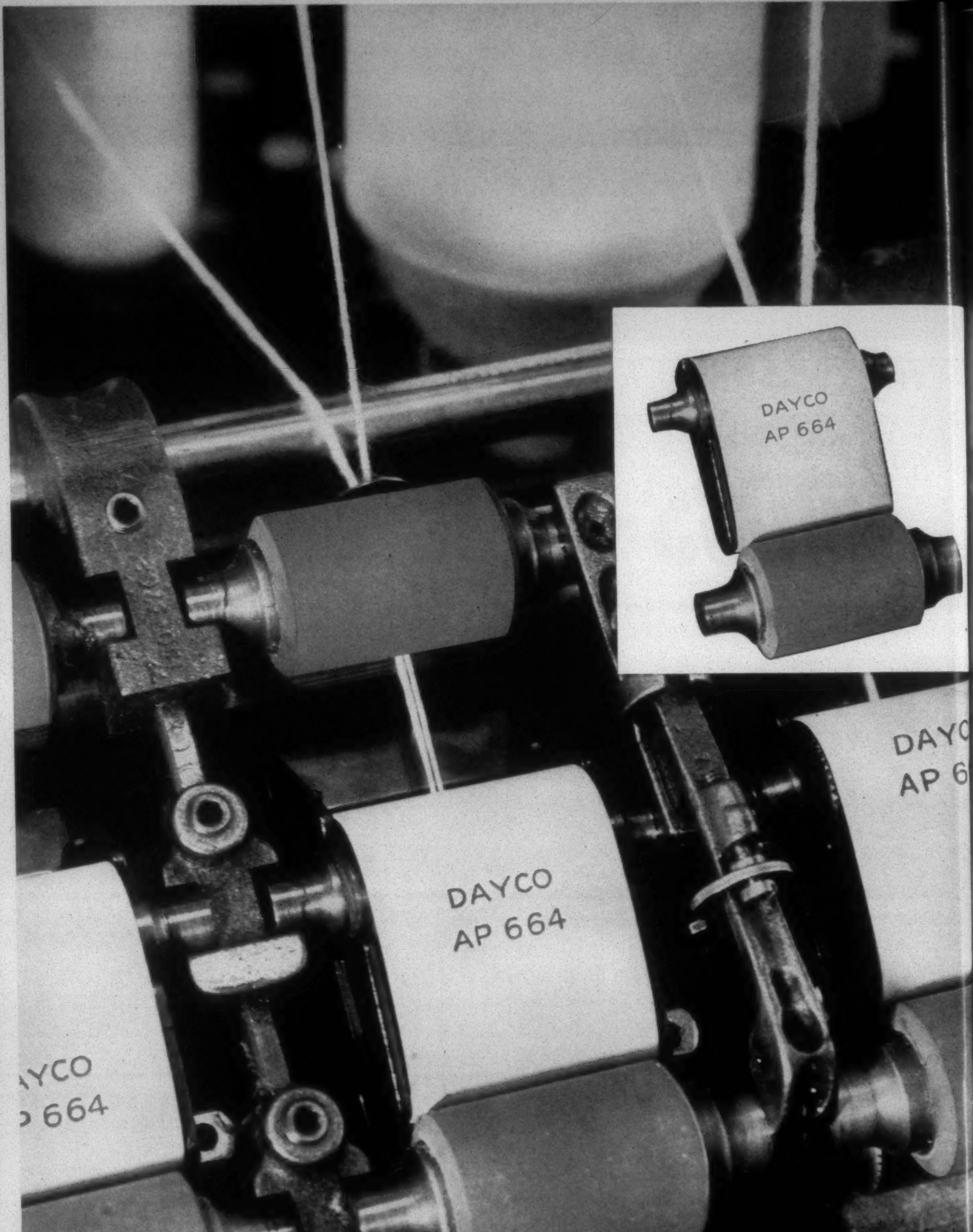
- Operates on creel or ceiling supported track
- Individual motors with overload protection and indicator lights
- Electrically operated for trouble-free performance
- Balanced low-silhouette requiring minimum overhead clearance
- Low center of gravity for maximum travel stability
- Heavy duty track for maximum life

Let a Bahnson representative analyze your cleaning problems and explain the benefits of the Bahnson Cross-Jet Cleaner for your requirements. There's no obligation. *Write Bahnson today!*

Bahnson AIR-O-MATION

Air at Work for Increased Profits

THE BAHNSON COMPANY
WINSTON-SALEM, N. C., U.S.A.


DAYCO
AP 664
DAYCO
AP 664
DAYC
AP 6
AYCO
P 664

Cut out lost time !

by using Dayco Cots and Aprons

PROFITS ARE MADE . . . or lost . . . right there in your drafting area. Put up with slow Monday morning starts, excessive ends down and overloaded clearer boards, and there go the profits. On the other hand, if you equip your drafting area with Dayco Aprons and Cots, you'll count out more production . . . with fewer man-hours . . . because you've eliminated the principal causes of slow-ups and down time.

FASTER START-UPS are yours with Dayco Aprons and Cots because they won't adhere to fibers . . . no matter how long you've been shut down. By the same token, they're unaffected by lubricants and oils in the natural fiber and, above all, stay dry even when the temperature and humidity get out of hand!

COUNT THE YARDS at the end of the shift and you'll be surprised at how many more you've run. Because Dayco Aprons and Cots have just the right coefficient of friction, they have a smoother, more economical drawing action that leaves all the long fibers in the yarn instead of depositing them on the clearer board. The result is stronger yarn, fewer ends down, and more yards per shift.

LONGER LIFE means that over the months, you'll find the Dayco Combination gives hundreds of hours more service. Dayco Aprons won't curl, become sticky or groove . . . won't stretch or take a permanent set. Neither will Dayco Cots pit, groove, or become glazed from hard wear. Naturally, with the longer life of the Dayco Combination, you'll save many hours of replacement time.

Take a second look at your profits and you'll want your Dayco representative to arrange a test with the Dayco Combination the next time he calls. Or write The Dayton Rubber Co., Textile Division, 401 S. C. National Bank Building, Greenville, South Carolina.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving

OVERSEAS PLANT, THE DAYTON RUBBER CO. LTD., DUNDEE, SCOTLAND

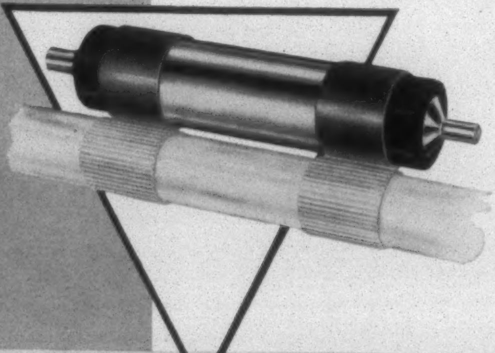
WANTED

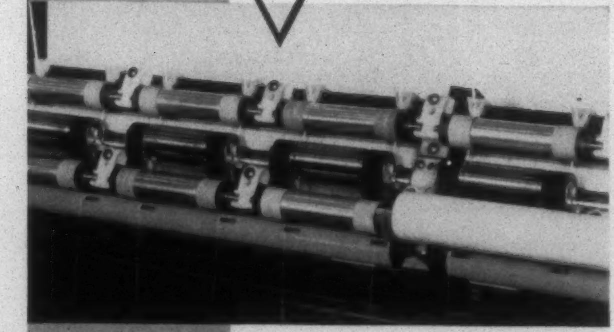
MEN WITH TRUCKS TO HAUL AWAY

4 MILLION

SADDLES, LEVERS, OIL CANS, STIRRUPS, WEIGHTS AND OTHER COMPONENTS FOR APPLYING TOP ROLL PRESSURES.

New MagneTrol by Saco-Lowell is here.....





More than 50% of the components previously necessary to apply top roll pressure are eliminated by this revolutionary new system which uses Magnetic Top Rolls in the drafting element. Proper roll pressure is maintained only by the force of magnetic attraction.

In addition, the NEW MagneTrol system never requires lubrication above the roller beam.

These 4 reasons make the MagneTrol frame the Cleanest, most efficient ever developed.

1. **No lubrication above the beam**
2. **Exceedingly few component parts**
3. **Efficient cleaning action of the clearers**
4. **Eliminates problem of worn necks on steel roll**

Get all the facts about the revolutionary MagneTrol from your nearest Saco Lowell Sales Office.

SACO-LOWELL-SHOPS

EXECUTIVE OFFICES: 60 BATTERYMARCH STREET, BOSTON 10, MASS.
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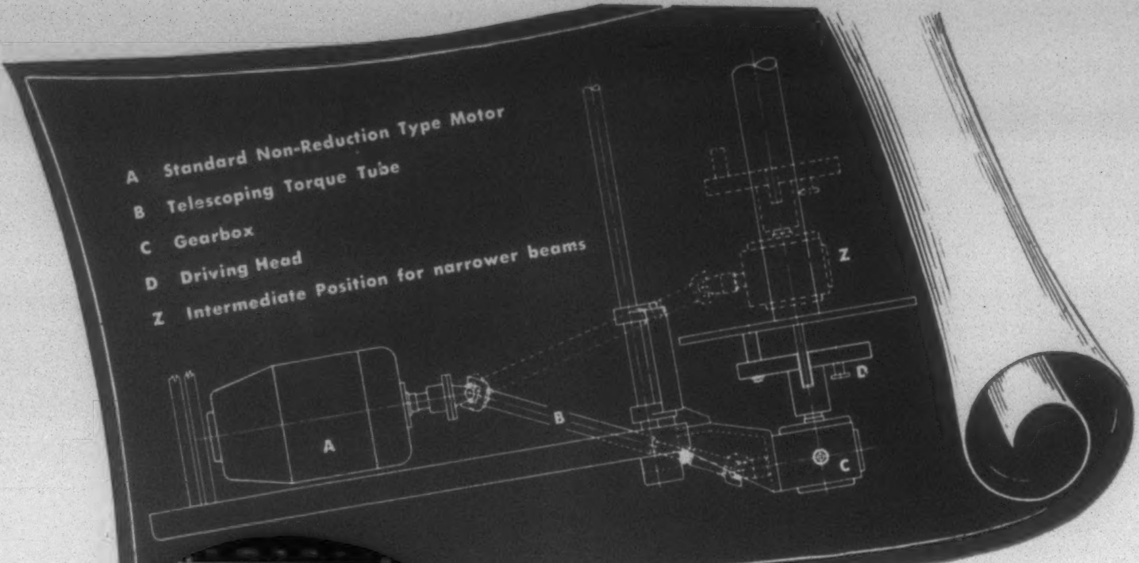
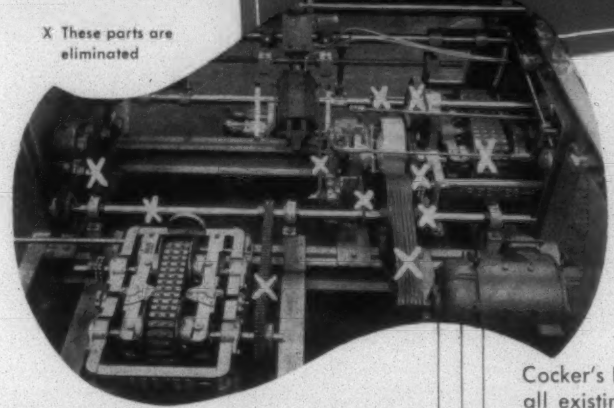
Sales Offices: ATLANTA, GA., CHARLOTTE, N. C., DETROIT, MICH., GREENSBORO, N. C., GREENVILLE, S. C., TORONTO, CANADA


A Standard Non-Reduction Type Motor
B Telescoping Torque Tube
C Gearbox
D Driving Head
Z Intermediate Position for narrower beams
A
B
C
D
Z



New!

The World's Finest Slasher Head Drive

Better Simpler Less Expensive

Cocker's New Slasher Gear Head Drive is a tremendous improvement over all existing drives. It eliminates troublesome belts, chains, and sprockets. These are replaced with a telescoping torque-tube drive* with two universal joints which transmits positive power to a gear reducer which drives the beam driving head direct. This is the same type drive which is used in the finest automobiles and on expensive machine tools.

LOWER INITIAL COST—LESS MAINTENANCE This new design permits the use of a basic 5 HP-DC motor of simplest design and eliminates the present expensive gear boxes, thus reducing initial cost materially. Simplified driving mechanism operates smoothly with very little maintenance. Only five places to lubricate. Working parts are easily accessible. The same drive will be used on all type Cocker Slashers, thus permitting "off-the-shelf" replacement parts service.

PROJECTION SPINDLES ELIMINATED Can safely run beams varying as much as 50 inches in width without protruding spindles and with no sprockets or chains to slide in and out.

VIRTUALLY ELIMINATES NOISE

NEW CLEAN MODERN DESIGN

All other features of the superb Cocker head end remain the same as before —rugged construction, complete and accurate push button controls, full instrumentation, new, fast and simple beam doffing. Also available with Cocker's patented Beam Drive which provides constant adjustable tension regardless of speed or load. Speeds up to 150 ypm and 20% to 25% more yarn per loom beam with production rates of over 1500 lbs. per hour.

Write for full information today.

*Patent Applied For

In Canada and New England: Contact W. S. Clark, Montreal Canada, Melrose 1-3751
Plant and Offices: Ranlo, N. C. Mailing Address: Gastonia, N. C.

THE LEADER AROUND THE WORLD
COCKER
Machine and Foundry Co., Gastonia, N. C

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

For immediate action on parts or service — nights, weekends or holidays — call EDison 5-5061, Charlotte, N. C.

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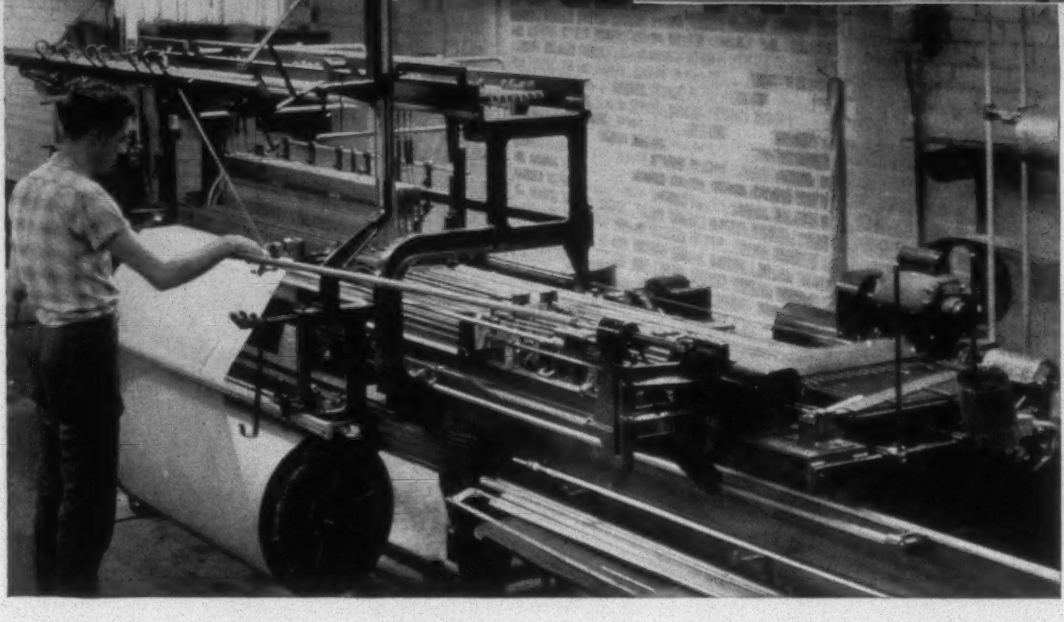
LIKE THIS



WE SUGGEST YOU LOOK INTO THE

BARBER-COLMAN WARP DRAWING MACHINE

With this machine, the time-eating task of drawing-in is speeded up tremendously. A power-driven needle, running at 127 to 230 strokes per minute (depending on the number of weaving elements to be entered), draws each thread in succession through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately *and automatically* for each pick by a sequence of mechanical actions controlled by a pattern strip punched in accordance with the designer's draft. Very substantial reductions of drawing-in costs are possible, particularly on patterned goods such as stripes, plaids, and fancy weaves. This *modern method* of replacing warps has enabled many mills, both large and small, to meet the ever-increasing demands for a greater variety of patterns. *Your Barber-Colman representative is qualified to advise you on possibilities in your mill.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

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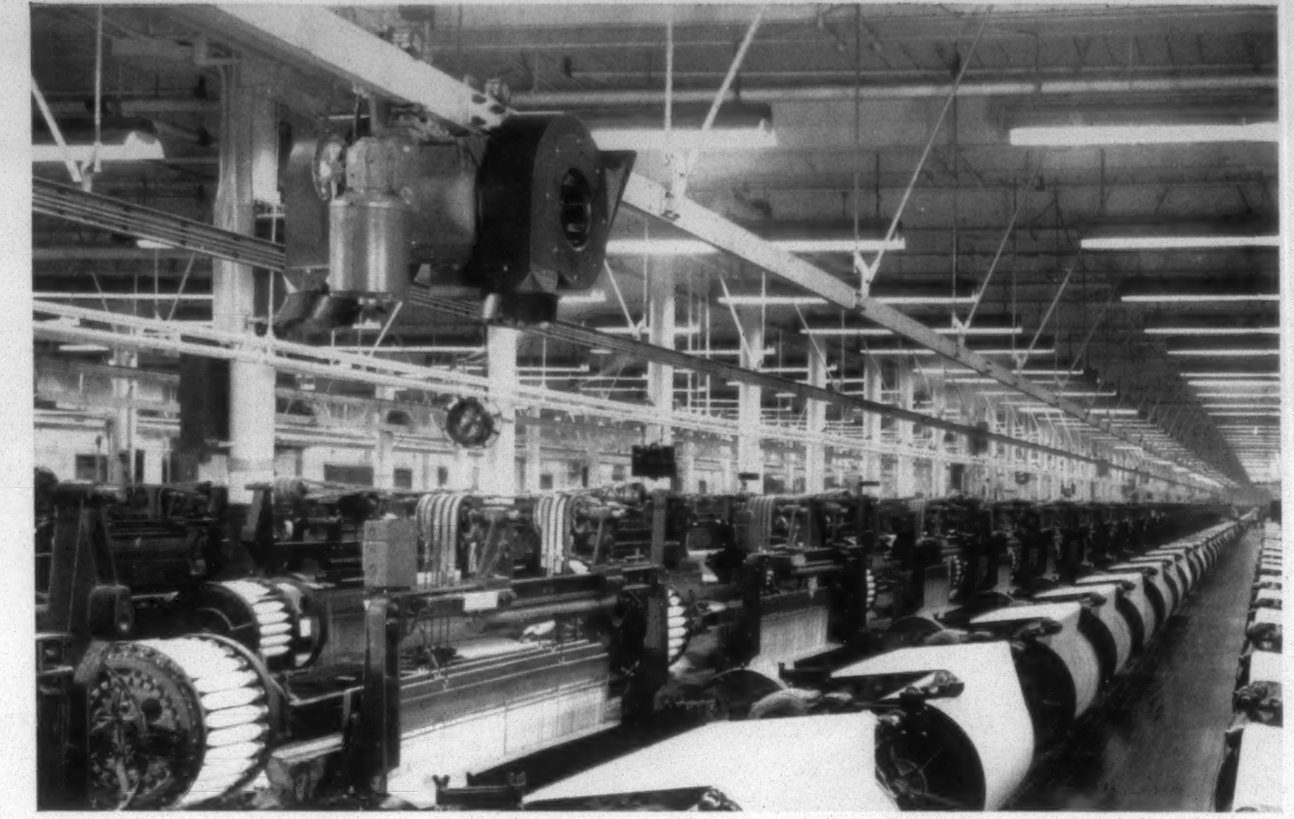
PROVIDENCE · SAN FRANCISCO · IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL



AUTOMATIC CLEANING where overhead track brings full air sweep of loom cleaner to every loom on the floor, without disrupting loom operation, keeping looms free of accumulated waste.

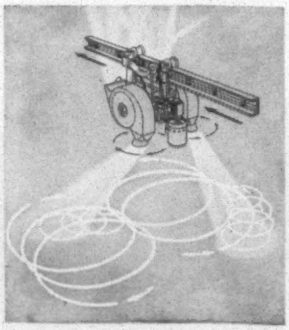
KEEPS LOOMS CLEAN . . . WITH NO DOWNTIME

In mills where Amco Heliclone Loom Cleaners have been installed, new high-quality production standards are being established.

The swiftly whirling outlet nozzles, driven by powerful air streams, direct high velocity jets of air in overlapping, circular paths resulting in a rapid series of sharp puffs over loom and warp surfaces. At the same time, supplementary air outlets clean overhead track and ceiling.

Automatic cleaning with Heliclones largely eliminates end runs and floats, waste bunches, end breakage, overshots, broken picks, and oil spots caused by loose accumulated waste. Of course, it completely eliminates the old-fashioned method of manual cleaning, which is a constant source of accidents and cloth imperfections, and is so costly in terms of labor and downtime.

Amco Heliclone Loom Cleaners may be used for the automatic cleaning of practically *all* makes and types of looms. A unit similar to the Heliclone is also available for winder cleaning. Write American Moistening Company for further facts.



- Keeps looms and ceiling free of accumulated waste
- Cuts loom cleaning and costly downtime
- Improves production and quality of fabric
- Reduces fire hazard
- Improves weave room appearance
- Can be used with beam handling equipment

AMCO HELICLONE® LOOM CLEANER

Pat. Pend.

AMERICAN MOISTENING COMPANY
Since 1888
Makers of Air Conditioning Systems and Textile Mill Equipment
Home Office and Plant: Cleveland, N. C. — Branches in Atlanta, Providence, Toronto

7

Rayon sheds rain or shields against sun with equal ease. Its versatile utility-plus-economy has made rayon consumption greater than all other man-made fibres combined. And it's still growing!

To prepare for rayon's big future, we have just completed a multi-million-dollar expansion of our South Charleston, W. Va. caustic soda plant. Carbon bisulfide capacity is being doubled, too.

With this increased production we confidently expect to continue as a major supplier of basic chemicals for the rayon producers. We shall maintain the same high standards of efficient service that we have long rendered all of our customers throughout the textile industry.

Westvaco®

CAUSTIC SODA
CARBON BISULFIDE

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FOOD MACHINERY AND CHEMICAL CORPORATION ®

Putting Ideas to Work

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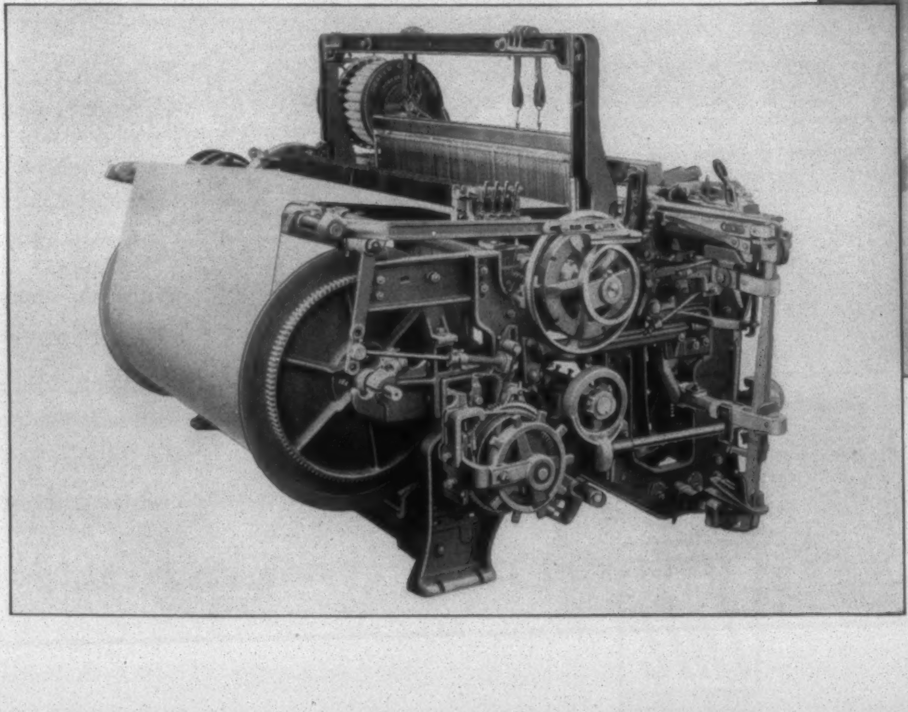
Improvements make them different...

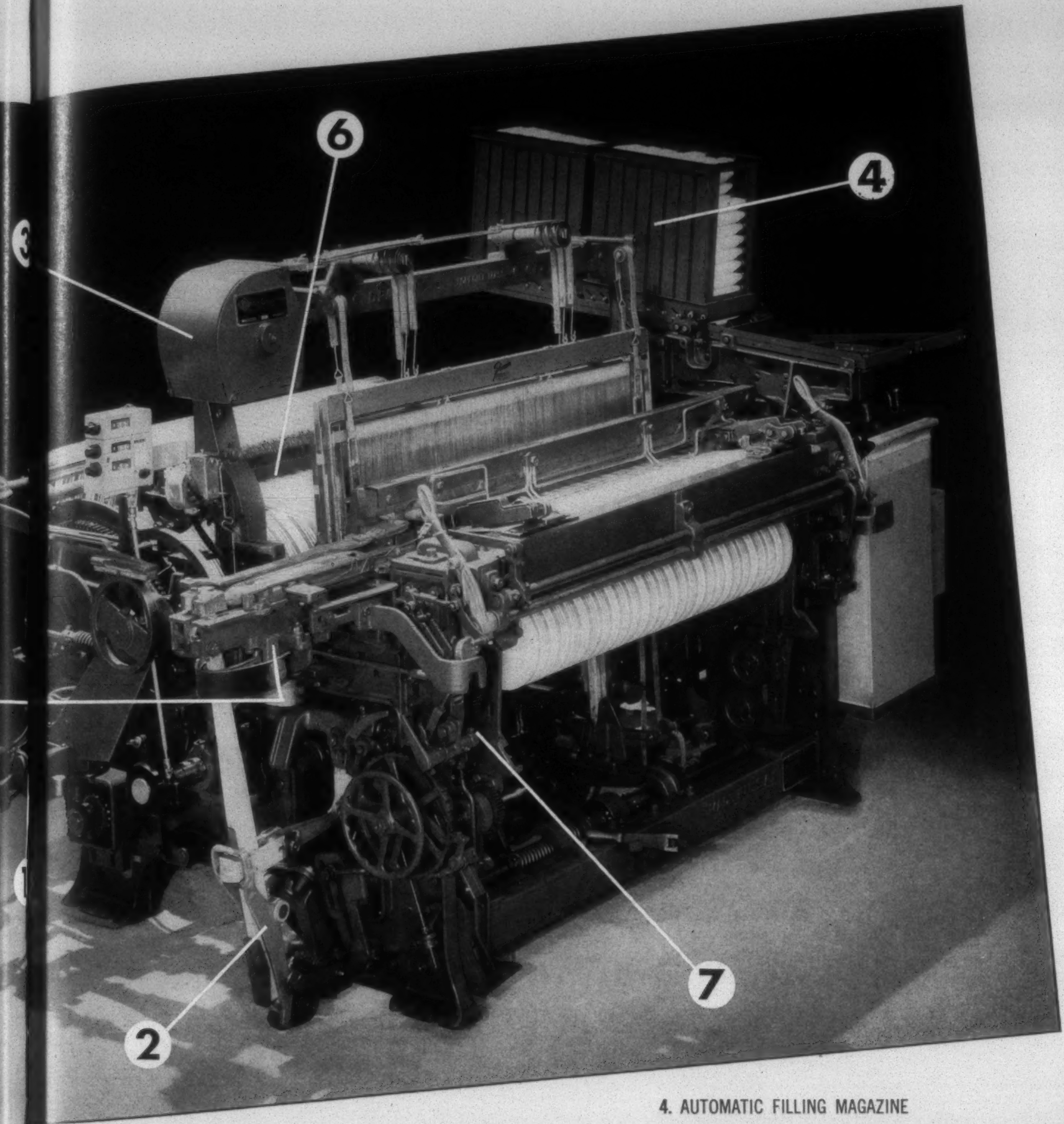
Today's high-speed automatic X-2 Model Loom, with its many technical advances, is a far cry from the X-2 of yesteryear.

Research and Engineering developments, while reducing costs, have brought about "new highs" in loom efficiency and production.

Many of these attachments currently available on new Draper X-2 Looms can be adapted to your looms.

See your Draper Representative for additional information.





1. TRU-TENSION LET-OFF
2. LINK TYPE PARALLEL
3. CLOCK SPRING TOP MOTION
4. AUTOMATIC FILLING MAGAZINE
5. #14 SHUTTLE CHECK
6. SERRATED WARP STOP ELECTRODE
7. HIGH ROLL TAKE-UP

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HOPEDALE, MASS.

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Garments courtesy of Browning King, Incorporated, Boston, Mass.

You'll weave these better and at lower cost with UNIFIL®

Many mills are proving it every day.* Cotton, spun and filament synthetics, textured and novelty yarns—all weave better with Unifil.

Unifil is a unique system of filling preparation — you get all the advantages of "weaving from a cone!" A Unifil-equipped loom winds, weaves and strips its own quills — *all automatically in a continuous cycle!* The result — clean, uniform quills — untouched by human hands — are wound from the same supply package.

And Unifil is versatile. You can make rapid fabric change-overs. You're always ready to meet product demand — *fast!* Contact your Universal Sales Engineer — he'll give you the full story of this quality-improving, cost-saving machine.

---

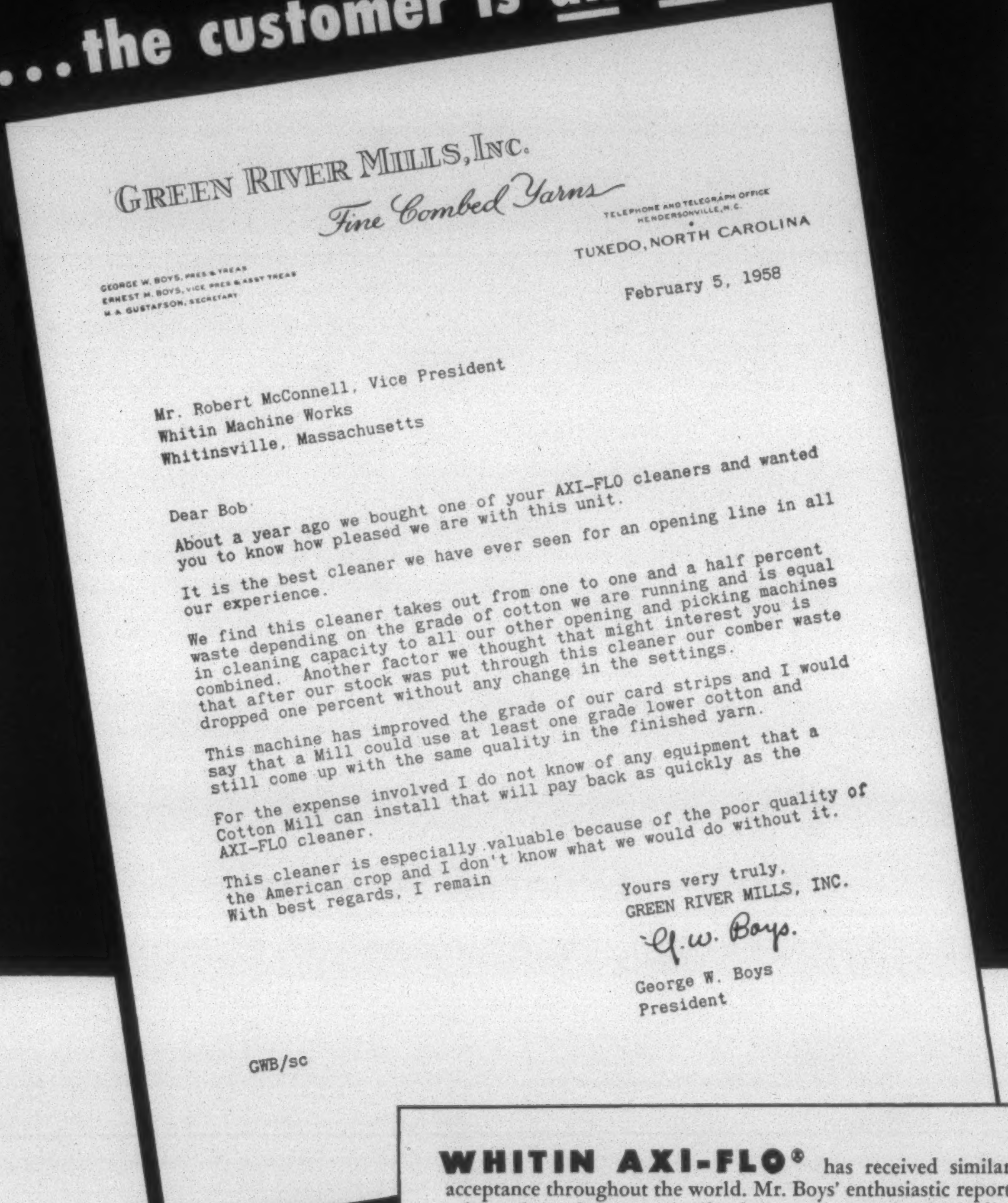
* Amerotron, Burlington Industries, Cannon Mills, Cone Mills, Dover Mill Group, Ponemah Mills, Riegel Textile, Starr Mills, J. P. Stevens, United Merchants and Manufacturers, Woodside Mills. (This is only a partial list.)

23.7.38

® LEESONA® **UNIVERSAL WINDING COMPANY**

What more is there to say?

. . . the customer is all ways right!



GREEN RIVER MILLS, INC.
Fine Combed Yarns

GEORGE W. BOYS, PRES & TREAS
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TELEPHONE AND TELEGRAPH OFFICE
HENDERSONVILLE, N.C.
TUXEDO, NORTH CAROLINA

February 5, 1958

Mr. Robert McConnell, Vice President
Whitin Machine Works
Whitinsville, Massachusetts

Dear Bob

About a year ago we bought one of your AXI-FLO cleaners and wanted you to know how pleased we are with this unit.

It is the best cleaner we have ever seen for an opening line in all our experience.

We find this cleaner takes out from one to one and a half percent waste depending on the grade of cotton we are running and is equal in cleaning capacity to all our other opening and picking machines combined. Another factor we thought that might interest you is that after our stock was put through this cleaner our comber waste dropped one percent without any change in the settings.

This machine has improved the grade of our card strips and I would say that a Mill could use at least one grade lower cotton and still come up with the same quality in the finished yarn.

For the expense involved I do not know of any equipment that a Cotton Mill can install that will pay back as quickly as the AXI-FLO cleaner.

This cleaner is especially valuable because of the poor quality of the American crop and I don't know what we would do without it. With best regards, I remain

Yours very truly,
GREEN RIVER MILLS, INC.
G. W. Boys.
George W. Boys
President

GWB/sc

WHITIN AXI-FLO® has received similar acceptance throughout the world. Mr. Boys' enthusiastic report echoes those from scores of other customers who have discovered that they, too, were *all ways* right when they installed these outstanding cleaning units.

Write today for folder giving complete details.

Whitin MACHINE WORKS
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Hardness minerals in water combine with soaps to form a cloudy film that clings to cloth, interferes with dye action, causes streaks and spots, poor penetration.

Calgon sequesters minerals, allows detergents to perform their function without interference from water hardness. Aids penetration and dispersion of dyes.

Calgon® Softens Water

Calgon's ability to stop the precipitation of lime soaps in scouring or rinse baths is one of its most useful effects in the processing of textiles. But Calgon helps the textile industry in many other ways . . . in the dispersing of dyestuffs and pigments, in the control of corrosion, in bleaching, and in nearly every textile operation. Here is a check list of the time and money saving applications of Calgon:

CALGON CONDITIONS WATER—Softens more water for less money. Calgon not only softens water until it is as soft as distilled water, but acts as a solvent for lime soap as well.

CALGON IN THE DYEBATH gets brighter, more uniform colors and reduces scum. Calgon exerts a dispersive and solubilizing action on many dyestuffs, and acts as a leveling and penetrating agent. You get more vivid and more even colors.

CALGON DISPERSES PIGMENTS for more uniform finishes. Calgon is an excellent dispersing agent for clay, calcium carbonate, titanium dioxide and other pigments. Calgon is particularly effective for uniform finishing of rayon and other synthetic fabrics.

PIGMENTED RAYON—Calgon aids dye penetration of dyes in pigmented rayon, giving deeper and brighter shades. Calgon stops scum formation, assuring more even colors.

THRESHOLD TREATMENT FOR CORROSION CONTROL* eliminates iron, reduces off shades and lowers chemical cost of bleaching. Calgon prevents the contamination of process water from iron corrosion products. Using very small quantities of Calgon, Threshold Treatment is the most economical method for elimination of iron contamination.

Write for your FREE copy of the new edition of "Calgon Data for the Textile Chemist."

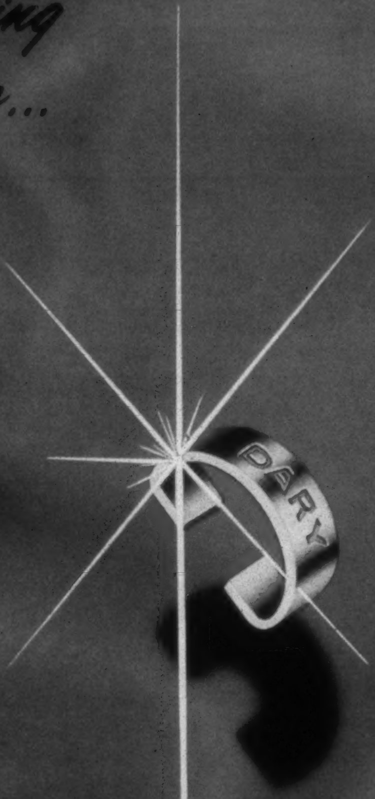
*Fully licensed for this use under U. S. Patent No. 2,337,856.

CALGON COMPANY

DIVISION OF **HAGAN** CHEMICALS & CONTROLS, INC.
HAGAN BUILDING, PITTSBURGH 30, PENNSYLVANIA
DIVISIONS: CALGON COMPANY, HALL LABORATORIES
IN CANADA: HAGAN CORPORATION (CANADA) LIMITED, TORONTO

Since 1898

Dary Ring Travelers...



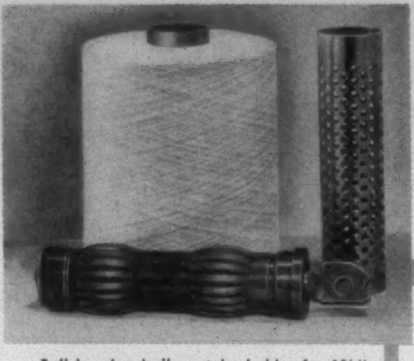
THE DARY RING TRAVELER CO.

TAUNTON, MASSACHUSETTS

LINDSEY I. PHILLIPS, Treasurer, Taunton, Mass.

Consult your friendly Dary Representative:

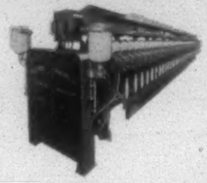
JOHN H. O'NEILL	Box 720, Atlanta, Ga.
JAMES H. CARVER	Box 22, Rutherfordton, N. C.
CRAWFORD "JACK" RHYMER	Box 2261, Greenville, S. C.



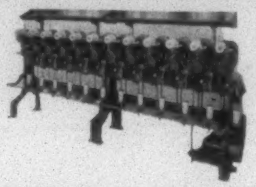
Ball bearing balloon tube holder for 1⅝″ dye tubes on Model 102.

FOSTER MACHINES

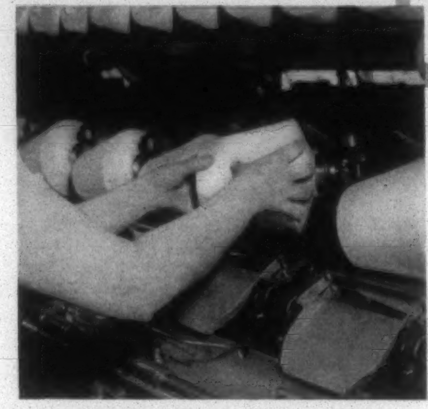
for winding dye packages



Model 102



Model 75



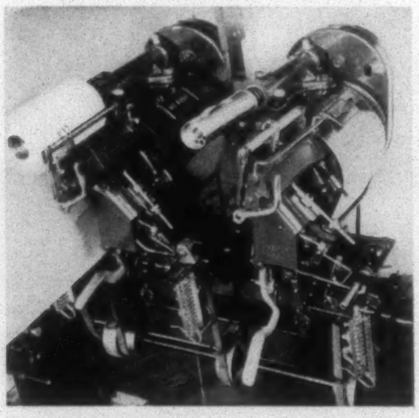
Doffing package on Model 102. Holder swings out. Balloon spring easily releases package.

Special Attachments for Maximum Efficiency

The Foster Model 102 has, for years, been a favorite machine for winding cotton yarn dye packages, as has the Foster Model 75 for winding rayon and acetate dye packages. Basically suitable for these purposes, both machines have been made even more efficient by the addition of special attachments which are described and illustrated herewith.

FOSTER MODEL 102

For winding ⅝″ dia. or 1⅝″ dia. dye tubes the Model 102 is equipped with balloon type tube holders. Tubes slip over these holders easily and slip off just as easily . . . . thereby eliminating yanking and resultant distortion of the dye packages.



1⅝″ dye tube holder and pressure assembly on Model 75.

FOSTER MODEL 75

For winding 1⅝″ dia. dye tubes the Model 75 is equipped with 1⅝″ holders and pressure roll assemblies. The winding is done directly from the supply and requires no special feed rolls. Yarn tension as low as 4 grams and density as low as No. 5 Durometer reading can be obtained. The soft packages facilitate quick and uniform penetration of the dye liquor.

For more detailed information contact our nearest office.

Dye package wound on Model 75 is exceptionally soft — 5 Durometer reading.

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U. S. A.

Southern Office — Johnston Bldg., Charlotte, N. C. • *Canadian Representative* — Ross Whitehead & Co. Ltd., 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • *European Representative* — Muschamp Textile Machinery Ltd., Keb Lane Bardsley, Oldham, England.

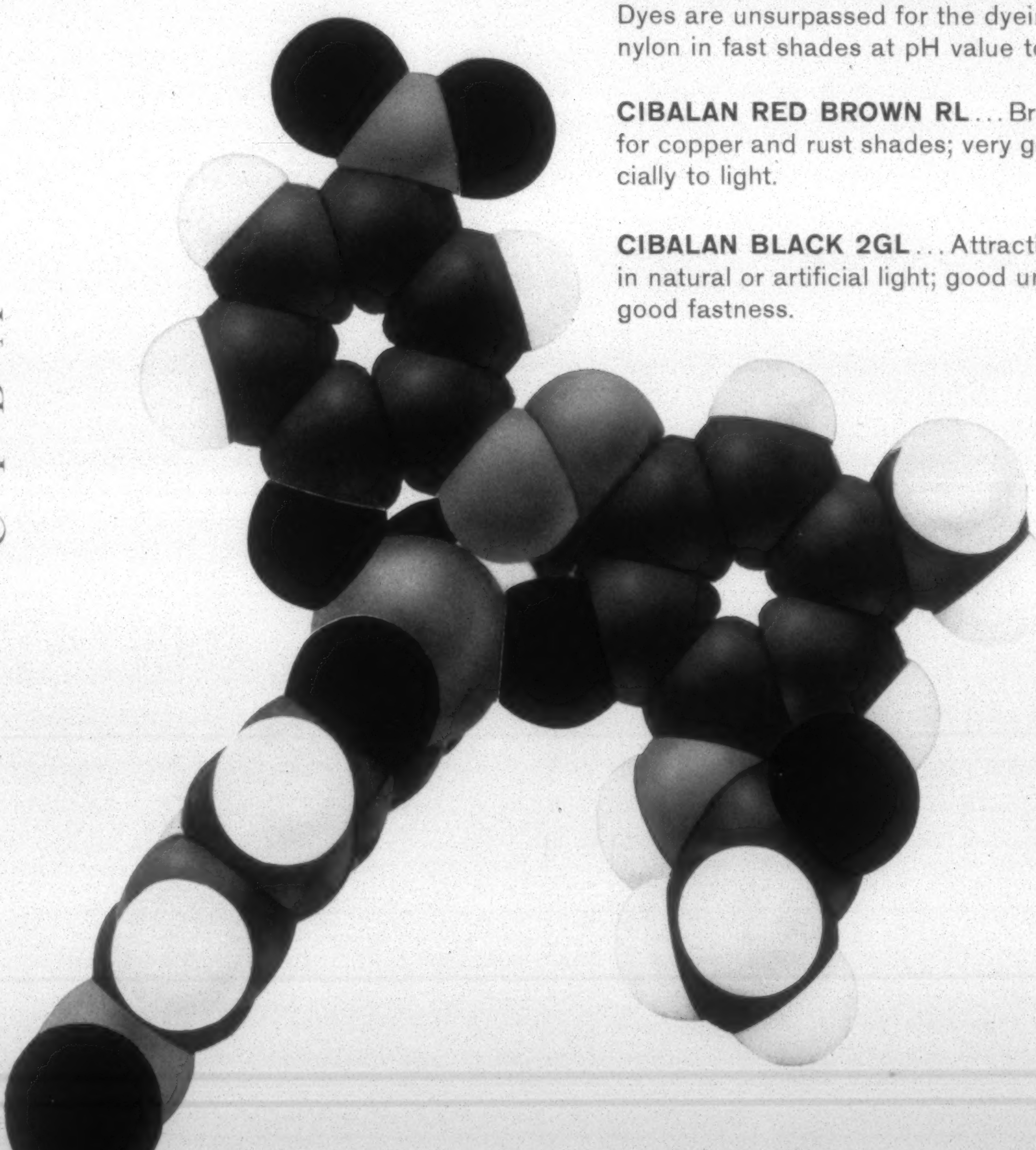
33

MORE THAN EVER, FAST SHADES FASTER WITH CIBALAN® DYES

CIBA Research in dyeing developments for both natural and synthetic fibers produces tangible results that assist the dyer, such as these newest additions to the CIBALAN Dyes. The widest selection of dyes among any neutral pre-metallized dye range, the CIBALAN Dyes are unsurpassed for the dyeing of wool, silk, and nylon in fast shades at pH value to suit the fiber.

CIBALAN RED BROWN RL... Bright reddish brown for copper and rust shades; very good fastness, especially to light.

CIBALAN BLACK 2GL... Attractive greenish black, in natural or artificial light; good union on wool/nylon; good fastness.



This molecular structure of neutral pre-metallized dyes symbolizes the "thoroughbred" calibre of CIBALAN Dyes.

CIBA

For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

Loom Check Strap

Extremultus Inc. claims its new loom check straps are lasting from three to four times as long as ordinary straps.

A new loom check strap which is reported to outlast conventional check straps more than three fold, has been developed by Extremultus Inc.

The new check strap, made of a special material designed for the textile industry by the makers of Extremultus power transmission belting, is currently in operational installation in four New England textile mills. Reports from mill men and mechanical superintendents indicate that the new straps are lasting from three to four times as long as ordinary straps previously used, Extremultus reports.

One report, from a Massachusetts mill, indicates that even though the loom operates around the clock at 185 p.p.m. the new check strap needed no adjustment during the 15 weeks it had been in use.
(Request Item No. K-1)

Sandoz Vat Brown

Sandozothrene Brown N3B Double Paste Ultrasperse, a new Sandoz vat brown, is being emphasized for use on wash-and-wear cottons. Another feature claimed for the color is freedom from change of shade in resin finishing. Its improved freedom from tendering, and its excellent light fastness, suggest its use for awnings, too, Sandoz reported. Resistance to strong boiling recommends it for yarn dyed colored goods. The company says that it may be used for all types of fast dyeing, and is also suitable for printing by the flash aging method. (Request Item No. K-2)

Warp Size

Higher weaving efficiency and decreased shedding at the looms are said to be possible with the use of a new acetylated starch derivative developed by National Starch Products Inc. Marketed as Kofilm, the new material is said to be capable of imparting an exceptionally strong but flexible film that withstands the excessive abrasion of the weaving operation. Kofilm is especially suitable for sizing warps for closely woven, compact fabrics such as those used in weatherproof garments, fine shirtings, etc., National reports.

Because of its unique film forming properties, Kofilm has excellent potential as a finish either alone or in combination with thermosetting resins, according to the producer. It is presently finding application in the finishing of wash-and-wear fabrics where it imparts a superior hand. Its clear films do not alter the brightness of colored goods.

Kofilm has a lower gelatinization point than conventional starch and is highly resistant to breakdown on prolonged cooking. It is compatible with a wide variety of binders and softeners and can be successfully applied in conventional hot-air or can-drying slashers for warp-sizing or in the usual starch mangle for finishing.
(Request Item No. K-3)

Cloth Web Splicing Process

A cloth web splicing process that is said to reduce downtime and produce a permanent, thin overlap splice even on low-pick goods, has been announced by Minnesota Mining & Mfg. Co. (3M). Textile mill usage to date shows virtual elimination of splicing failures and costly "jumping" as splices pass through calender and printing rollers, 3M reports. Permanency of splices results in fewer shut-downs for splicing and less waste of yardage.

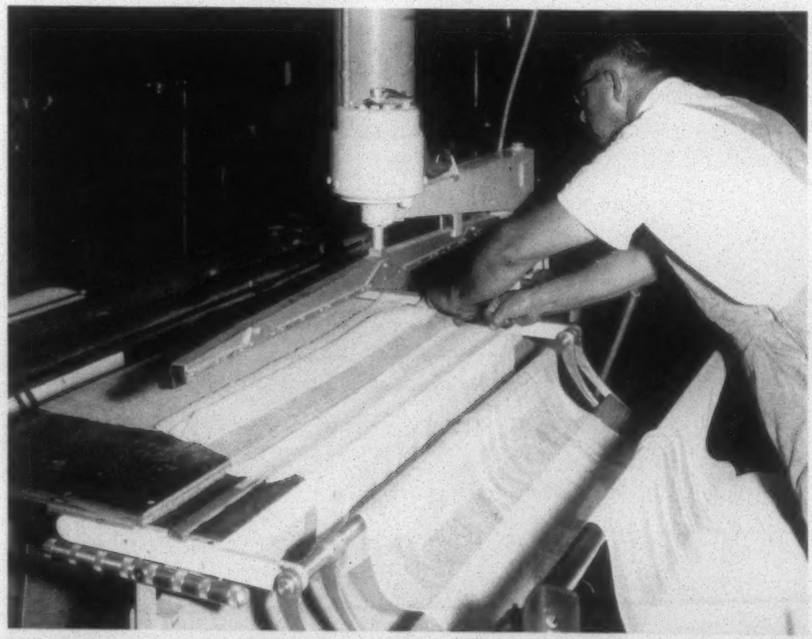
The splice is made by "welding" the cloth ends together with Scotch-weld brand bonding film No. 588 and a "heat jaw" splicing machine especially developed for the purpose. Tests of the process in bleacheries, finishing plants and dying operations have shown the splices to be resistant to heat and chemicals used in normal textile treating and processing operations. Splices are made at temperatures of 375° to 400° F., under 50 to 60 p.s.i. of pressure, for 20 to 30 seconds. The complete splicing cycle, including handling and placement of the cloth roll edges on the machine, reportedly takes 40 to 50 seconds on most fabrics.

The process is especially designed for those mills producing low-pick goods such as tobacco cloth, cheese cloth, gauze or industrial cloth. Field tests of No. 588 bonding film by 3M have shown five principal advantages:

(1) It eliminates gathering or bunching of cloth which requires "jumping" the splice when it cannot pass through calender and printing rollers. This saves cloth and reduces machine downtime.

(2) The film produces a permanent splice, even on low-pick goods, which does not pull apart under processing strain.

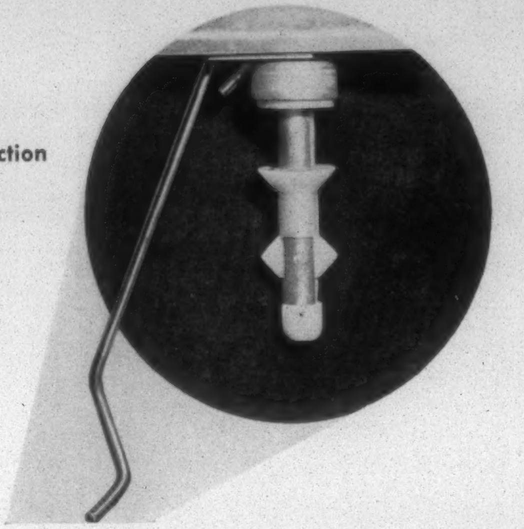
(3) Loose threads in the splice that may



The new 3M cloth web splicing cycle consists of three steps. The first is to overlap loose ends of the cloth rolls and place them in position along with a strip of Scotch-weld brand bonding film No. 588 on the web splicers. Next the cloth and bonding film is put under heat and pressure as the splicing arm presses down to make the bond. The cycle is completed as the splicing arm raises creating a thin, strong bond free of loose warp ends.

Roberts Latch-Type Bobbin Holder

- Snaps off by hand for easy cleaning and inspection
- Retainer type ball bearing for uniform rotation
- Inside spring completely enclosed to keep lint out
- Automatic latching and bobbin release of simple sturdy construction
- Mounts easily on creel channel or on wood creel boards



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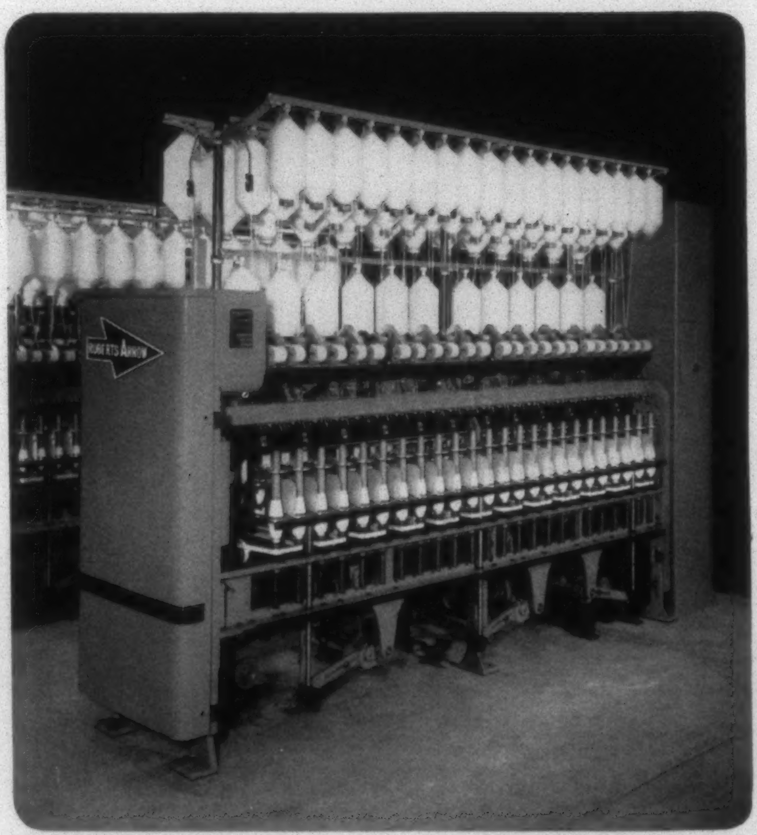
CHANGE-OVER MODERNIZATION
ON ANY MAKE OF FRAME



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Roberts All-Ball-Bearing Head
Unitized Sectional Frame
AeroCreel with Latch-Type Bobbin Holders
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The Lindly Electrotense: Simple, compact, inexpensive. Accurately controls yarn tension from zero to about 20 grams.

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The Lindly ELECTROTENSE is the new, inexpensive, electro-mechanical way to control yarn tension from almost zero to about 20 grams. A turn of a single, centrally located dial applies desired tension evenly and simultaneously at all tension stations.

What are the advantages?

The Lindly ELECTROTENSE permits easy, instant change of yarn tension. It results in more uniform beams, more yarn per warp beam, less maintenance and machine down-time, fewer broken ends and better cloth.

GET THE FULL FACTS ON THIS NEW TIME-SAVING, QUALITY-IMPROVING, COST-CUTTING LINDLY SYSTEM. WRITE, WIRE OR PHONE TODAY!

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LINDLY & COMPANY, INC.
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MINEOLA, NEW YORK

catch and wind around processing rollers are eliminated.

(4) Film splices only as thick as the overlapped cloth webs are thin enough to avoid interference with the operation of shears, singers, breakers and nappers.

(5) The film bond keeps the web width even by eliminating "drawing in" under tension.

When using the film on textiles, a half-inch width has been found adequate for an average splice. Cost of the film, which is available from 3M, is approximately 9 cents per 100 inches of splice. The film is also available in smaller or larger widths. One of the first firms to adopt the new method for full scale use reportedly spliced one million lineal yards of tobacco cloth with approximately $2,500 of bonding film, 3M reports. Cost of the web splicer, which was developed by 3M's customer engineering department in co-operation with the manufacturer, Precision Machine Co. of Greenville, S. C., runs approximately $4,000. (Request Item No. K-4)

Nonionic Softener

All types of yarns and fabrics are given a finer finish by Lauravel SC, nonionic softener, according to the producer, Laurel Soap Mfg. Co. Said to be outstanding for cotton goods, the company reports that it bestows a full-bodied softness, resists aging, and does not alter shades, nor yellow whites. Lauravel SC is said to resist salts, acids and alkalies. It is stable in salt, Epsom Salt, and acid-chrome finishing baths, and may—under certain conditions—be used in 1% to 2% salt solutions. Laurel reports that this characteristic makes it ideal for softening many direct colors where a salt color fixative is used. (Request Item No. K-5)

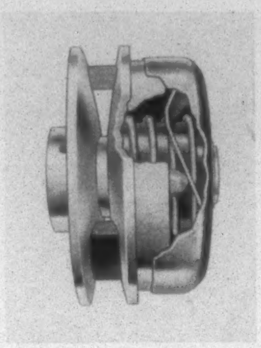
Pin Drafter

Warner & Swasey Co. introduced its latest and most advanced pin drafter model at the Southern Textile Exposition in Greenville, S. C., last month. This new machine—known as the wide setover pin drafter intersecting draw frame—is said to offer 33% greater pinning area and input capacity than its predecessors and to be capable of handling all of a mill's pin controlled drawing needs. This includes backwashing and assembler operations, in addition to precombing jobs. The machine opens up many new applications.

To meet the growing desire for larger packages, various delivery systems have been engineered for this latest machine to enable each mill to produce the exact type of package needed to satisfy its own individual requirements. These systems include single and dual can delivery, plus a balling head unit which delivers an 18" x 24" ball up to 50 lbs. in weight. The balling head is said to consume only 1/2 the space of older models.

The pin drafter's 8" plastic-bonded faller bars function at a constant speed of 1,500 faller drops per minute. In the Warner & Swasey exhibit at the Greenville Show, the machine demonstrated the handling of 8 ends up of 3 oz. top, drafting 8 and delivering a 3 oz. top. A new longitudinal ball creel, accommodating twelve 18" x 24" packages, feeds the pin drafter 60s wool with 1 to 1 1/2% anti-static compound. Fifty pound balls are delivered by the balling head. (Request Item No. K-6)

Variable Speed Pulleys



Lovejoy Flexible Coupling Co. is introducing a new economy line of vari-speed pulleys.

Constant speed regardless of wide variations in load is a major feature claimed for an economy line of variable speed pulleys produced by Hi-Lo Mfg. Co. and Lovejoy Flexible Coupling Co. This is accomplished by means of a cam which automatically maintains required belt tension for a given load. Thus the pulley faces are prevented from spreading and the pitch diameter is held at the desired setting. Belts are never subjected to excessive pressure, since the contact springs serve only to maintain initial tension, the firms report.

Known as the Hi-Lo FHP line, these pulleys are said to be extremely compact in both diameter and length. They are available in three horsepower ratings: 1/2, 3/4 and 1 at 1,750 r.p.m. The 1/2-h.p. unit is available with either high impact plastic or cast iron face. Other sizes are cast iron. Speed ratios vary from 2-to-1 for the 1/2 and 3/4-h.p. models to 2 1/2-to-1 for the 1-h.p. model. (Request Item No. K-7)

Multicontrol Unit

Greater control of a combination of textile inspection equipment, with significant savings, is said to be offered in the new Lindly Multicontrol Model 602, produced by Lindly & Co. The new unit can be used with various modular plug-in amplifiers to control two automatic yarn inspectors, end break detectors, or thread and line inspectors, or a combination of any two of these devices. Additional amplifiers provide control for a spun yarn inspector or Slave-Master yarn inspector operation. The multicontrol is used in conjunction with these electronic and photo-electric devices to count defects in these operations, and can be set to automatically stop production machines when a non-permissible defect is registered, thus improving yarn quality appreciably.

Broad band amplifiers in the new plug-in units, available in single or dual amplifier modules, are reported to permit detection of defects of almost any configuration. The plug-in feature permits quick replacement and minimum machine downtime in the event of component failure.

A visible fail-safe device is incorporated in the Model 602 to instantly indicate failure or reduced sensitivity of the phototube, or the burnout of the lamp. This is designed to eliminate the possibility that yarn will pass uninspected due to these causes.

New circuitry increases the life of the phototube many times, Lindly says, while the RF powered lamp, with feedback control, offers exceptional sensitivity and stability. Costly false stops due to power fluctuations are said to be eliminated.

Savings of more than 35% are said to be achieved by the use of one Multicontrol, with dual amplifier, when compared with 2 separate single control units. Savings of over 50% are realized when two Model B units (an earlier control unit) are traded for one new multicontrol unit, Lindly reports. (Request Item No. K-8)

Cibalan Fast Scarlet

As the 34th and newest member of the Cibalan dye group, Cibalan Brilliant Scarlet RL presents what is said to be an attractive yellowish red shade, which is reported to have considerably better fastness than any previous scarlet in its usual brightness range. The new dye is an original product of Ciba research, with dyeing and fastness properties meeting the standards of the Cibalan group.

Cibalan Brilliant Scarlet RL is said to be distinguished for its combination of shade brightness and good all-around color fastness and to represent a new approach in fast dyes for wool and nylon. When dyed in pastel and medium depths, shades exhibit a Fade-Ometer rating of 60-100 hours light fastness, the company reports. Wash tests are rated good, while perspiration and crocking fastness are comparable. Stability of the color in fulling and carbonizing is said to permit its use on wool in early processing stages. The dye may be applied to nylon in rawstock or yarn form as well as in the piece. (Request Item No. K-48)

Electric Motors

A new line of electric motors featuring complete sealed protection for their starting switches—a major cause of single phase motor failures in the textile industries—has been developed by the electric motor division of A. O. Smith Corp.

The major feature of the new design is complete containment of the switch, capacitor, thermostat and terminal board—to make these critical parts completely impervious to dirt, dust and oily accumulations.

These, heretofore, have acted to fault switch mechanism, major cause of motor failures in the single phase motors powering textile operations. The switch package capsule has a new design which allows inspection and checking of the switch without damaging the container's protection efficiency.

The new life-protected starting switch is being adapted to every model in A. O. Smith's single phase motor line. All motors feature life-lasting pre-lubrication. Other features include pre-lubricated ball bearing construction, said to provide up to 28% greater usable power than available with sleeve bearing motors. A locked bearing arrangement, another new A. O. Smith development, assures constant, even transfer of power from motor to driven machine with minimum power loss. This is said to reduce belt, pulley and bearing wear on the driven machine.

Besides the new motor design, A. O. Smith manufactures a complete line of motors for the textile industry from 1/3 to 900 h.p. in all types and modifications. It also maintains a product development engineering organization to support manufacturers' efforts in new product designing.

(Request Item No. K-9)

Cyana Purifying Finish

A new finish, Cyana Purifying Finish, recently developed by American Cyanamid Co., is said to be the first durable protection against the formation of body odors on fabrics. The finish is said to kill bacteria that actually cause the characteristically-unpleasant odor of perspiration. Application patents for the new product have been issued to the company.

Cyana Purifying Finish is pioneered on five lines of men's wear, which will begin

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NON-FLUID OIL "stays alive" longer than ordinary greases, lubricating dependably until entirely consumed, because it is *all* lubricant. It keeps ball and roller bearings cool, saving time and lubricant.

This extra lubrication life is due to special processes used in the manufacture of strictly neutral NON-FLUID OIL, which gives it greater stability and protective properties than ordinary greases.

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going on sale in time for the Christmas season. Women's applications, which are still in the sampling stage, are expected in time for next Summer's active hot-weather months.

Initial yardage treated with the new odor-control finish is presently being offered to the needle trades by the Chon-Hall-Marx Division of United Merchants & Manufacturers Inc., which also supplied the finished fabrics being used by the five garment producers participating in the introduction.

In all cases, initial garments are cotton and cotton blends, on which the finish retains its effectiveness through as many as 50 washings. Cyana Purifying Finish is equally effective on rayon, linen and all cellulosic fibers and blends. The new product, in addition to its durability, is said to be compatible with other finishes, and to not cause any change in hand or color. Chlorine bleach will minimize the effectiveness of the purifying agent. Manufacturers recommend laundering with an oxygen bleach.

Plans call for the use of a Cyanamid-supplied hangtag identifying the use of the new finish on a garment, and giving laundering instructions. In addition, Cyanamid's textile chemicals department is requiring quality-control agreements from all mills, finishing plants and cutters using the new finish. (Request Item No. K-10)

Multi-Channel Recorder

The Watchman multi-channel recorder can be used in a number of applications in the textile mill.

Fabrionics Corp. has announced the development of the Watchman, a multi-channel recorder that accurately tells what time equipment stopped, how long it was stopped, what caused it to stop and how much money was lost. The Watchman can be used on looms, roving frames, doffing of spinning frames, for warpers, slashers and carding equipment.

A light No. 18 to No. 22 wire is connected from each unit to be watched through a relay or micro switch (similar to the installation of an ordinary bell) to its own individual channel of the Fabrionics Watchman. The Watchman is driven by a clock motor at any desired speed ratio. (2 to 5" of paper per hour is generally most desirable). Every time a machine stops the recorder instantly starts to draw a straight line on the recording paper, showing the exact time it stopped. The line is continued until the machine is started. It is then terminated at the exact time of the start. In any one shift or day one can accumulate the exact amount of machine time lost. Since each stop is caused by a cloth defect or it causes a defect in the form of a stop mark, the recorder tells the number of cloth defects. The length of the line not only indicates machine efficiency but operator efficiency as well. Last of all, when the information is accumulated, the over-all efficiency of all equipment is shown.

(Request Item No. K-11)

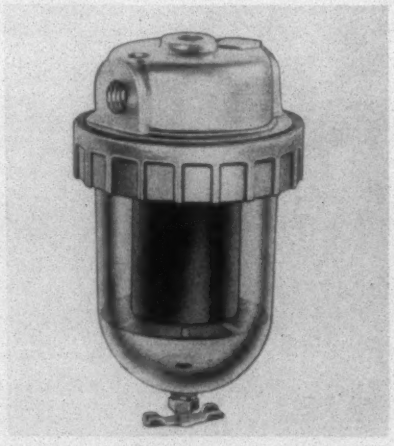
Cibalan Black

Ciba Co. has announced a new fast black for its Cibalan group. The new dye, Cibalan Black 2BL, is described as having a bloomy, bluish-black shade of exceptional light fastness on wool, silk and nylon. Supplementing the two blacks already established in the Cibalan group, Black 2BL differs from these primarily in shade and offers the same general dyeing and fastness behavior.

The all-round good shade fastness of Cibalan Black 2BL suggests the dye's use for all types of household and apparel fabrics, according to the company. Its resistance to color change in such processes as milling, bleaching and carbonizing is said to permit its application to stock and yarn as well as to piece goods. The dye is said to have a light rating of 7-8 on wool, 7 on nylon, and excellent fastness to washing.

(Request Item No. K-12)

Air Filter



Perfecting Service Co.'s new air filter uses an interchangeable throw-away type filter cartridge.

A completely new air-line filter using an interchangeable "throw-away" type filter cartridge has been developed by Perfecting Service Co. Cartridges are self-contained cylinders made from helically wound ribbons of phenolic resin impregnated cellulose, electrically fused together.

The air enters the filter and passes through a directional flow chamber which creates a cyclonic separating action within the plastic bowl. Dirt, grit, condensates and other foreign matter are said to be automatically separated from the air stream and forced to the bottom of the bowl where it is trapped by a brass baffle. The residue is easily blown out by simply opening the blow-off valve. Air thus cleaned, passes through the filter cartridge where a second cleansing process is said to remove

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Southern DURAWELD Shuttles offer at least 100% longer life expectancy with only a very moderate weight increase. They are made of finest quality Tempered Dogwood end blocks, for resiliency and tip retention, permanently bonded by an exclusive Southern method to long wearing wall sections of laminated wood or plastic.

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CALENDER
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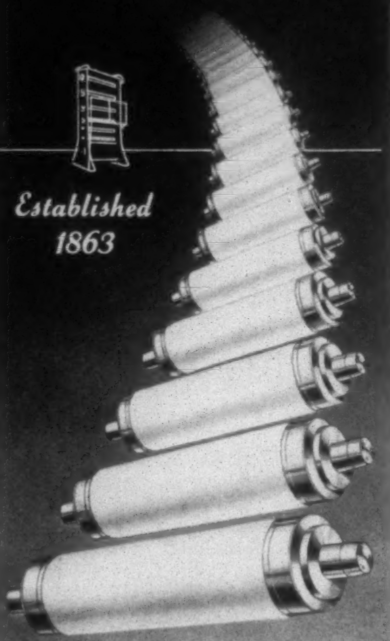

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all remaining particles within a 40 micron rating.

Filter cartridges are available in 10, 25 or 40 micron rating and can be changed without removing the filter from the line. The filter is designed for straight-through or angle installation. Aluminum bowls are available and are interchangeable with plastic bowls. Filters are available for immediate shipment in pipe sizes ¼, ⅜, ½ and ¾" n.p.t. The company's Bulletin No. 80 describes the complete line of air control devices. (Request Item No. K-13)

Cyanamid Vat Yellow

A new homogeneous vat yellow dye that combines a bright greenish yellow shade with a high degree of lightfastness is now available from American Cyanamid Co. Called Calcoloid Fast Yellow 6GL Single Paste, the dye is a patented Cyanamid specialty.

It is reported to have good fastness to sunlight exposure or to Fade-Ometer exposure. Its superior lightfastness, even in pale shades, is said to be particularly noticeable on viscose rayon, either with or without resin finishing.

In addition to good lightfastness, the company says that Calcoloid Fast Yellow 6GL has the properties of fastness to perspiration, crocking, washing, chlorine bleaching, dry cleaning, hot pressing, water spotting, continuous scouring and peroxide bleaching. (Request Item No. K-14)

Spectrofluorometer

Farrand Optical Co. has announced the addition of two new types of spectrofluorometer. One is a dual-purpose instrument for spectrofluorometric transmission measurements in the spectral region from 220 to 650 mu.

The second is a triple-purpose instrument which can be utilized as a spectrofluorometer, spectrophotometer or for reflectance measurements of solid samples such as textiles.

Farrand Spectrofluorometers can be supplied for manual operation, for automatic operation with recorders or for oscilloscope presentation. Descriptive Bulletin No. 820, Supp. 1, describes the unit.
(Request Item No. K-15)

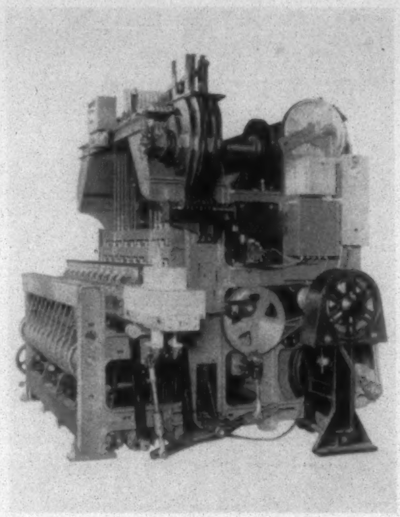
New Adhesives

Two new adhesives for cementing bondable Teflon to itself or to other materials have been announced by the adhesives department, Raybestos-Manhattan Inc. The first, Ray-Bond R-86009, is recommended for applications where some flexibility in the bond is required. It has good resistance to water and most chemicals. The toher, Ray-Bond R-86044, features excellent resistance to acids (except acetic) and various other chemicals, as well as water.

Both materials are two-component (base and activator) systems which will bond etched Teflon to wood, steel, glass, aluminum, ceramics, plastics or any other material that will bond with an adhesive. They may be cured at room temperature or at elevated temperatures.

Ray-Bond R-86009 can be used as a structural adhesive at temperatures up to 120° F.; as a non-structural adhesive up to 250° F. The temperature limitations for Ray-Bond R-86044 are 200° F. for structural use and 250° F. for non-structural use.
(Request Item No. K-16)

Narrow Fabrics Loom



The Fletcher Works has introduced this new 54-inch Power-Fab narrow fabrics loom designed to produce heavy government webbing at speeds as high as 250 p.p.m.

The Fletcher Works' narrow fabrics division is adding a new 54" Power-Fab narrow fabrics loom to its expansive line in response to demand for a more versatile and productive loom that would occupy less floor space.

The Power-Fab loom is designed to produce heavy government webbings at speeds as high as 250 p.p.m. and up to 300 p.p.m. on lighter fabrics. Edward T. Taws, Fletcher president, said the new loom is designed to provide heavier webbing without the bulk of the average huge machine needed for this purpose.

The new 5' Power-Fab loom will make it possible for the weaver to produce a much greater variety of narrow fabrics and webbings on the same machine with a minimum of mechanical changes because of the rigid construction, Fletcher reports.

The important advantages claimed for the new loom are higher speeds, maximum space production of quality fabrics, more versatility and increased operator work loads, higher loom efficiency and greater flexibility.

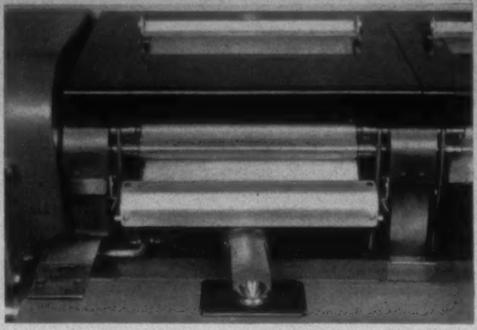
The loom has a new pin roll take-up motion with upper and lower tension rolls. The breast beam and take-up roller are mounted on ball bearings, acting as a warp tension equalizer. It employs 1¾" diameter quills for the heavier webbing.

Individual harness frame guides are said to reduce the harness load for the entire loom. The heavier cam shaft and larger diameter cams provide easier and smoother lift at higher speeds. The loom is 8' over-all,

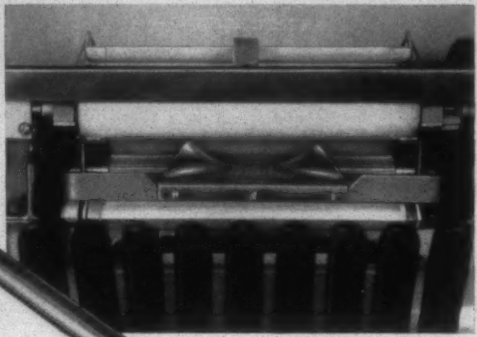
NOW — pick clearers only at the doff!!

NEW SACO-LOWELL SELF CLEANING UNDERCLEARER

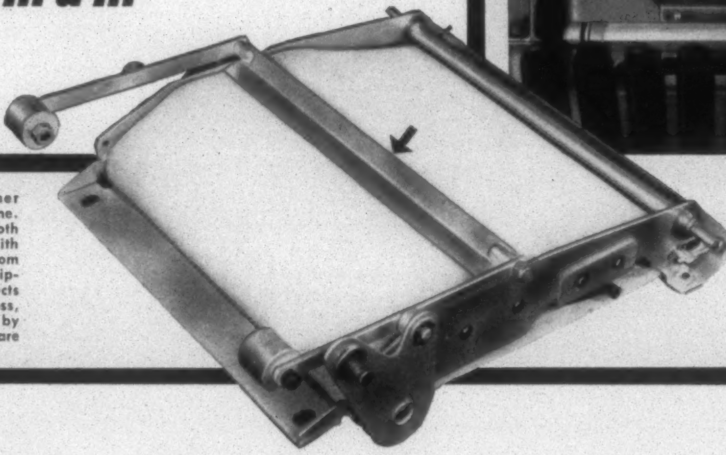
Reduces picking to a minimum



New Automatic Self-Cleaning Underclearer open to show clearer surface. Note the neat, compact design.



▲ As an extra aid in reducing sliver variation, a new sliver pan is attached in such a manner that the distance from the nip of the back rolls to the pan remains the same, regardless of changes in roll setting.



Self-Cleaning Undercleaner demounted from the frame. The loose-fitting felt cloth is in constant contact with the surface of the bottom rolls. The oscillating stripping comb (arrow) collects the waste in a loose mass, which is easily removed by operator as full cans are doffed.

Wth mills everywhere facing increased cleaning and picking costs due to the sub-standard 1957 cotton crops, Saco Lowell Research has developed this new self cleaning underclearer assembly which can be applied to both 16" and 18" conventional Saco Lowell Drawing Frames. This time and labor saving changeover cuts opeating costs and improves sliver quality. In addition to eliminating picking except at the doff it offers these 4 advantages:

1. ***Continuous apron keeps roll surfaces clean and lint free.***
2. ***Keeps sliver free of slubs.***
3. ***Apron surface is kept clean by oscillating stripping comb.***
4. ***New sliver pan reduces sliver variation.***

Enjoy substantial savings in your drawing operation with this NEW SACO LOWELL CHANGEOVER. Call or write the nearest Saco-Lowell Sales Office for complete information.

SACO-LOWELL SHOPS

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. *Sales Offices:* CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA and standard 54" beams are employed, double or triple-decked to suit ply fabrics. Delivery price, completely erected and ready to run, is $4,550.

(Request Item No. K-17)

Latex For Textile Uses

The Dow Chemical Co. has developed a new elastomeric latex based on vinyltoluene and butadiene for use by the textile industry. Designated Dow Latex 2582, the new product is said to be especially suited for upholstery and rug backing, for modifying and sometimes replacing natural or chloroprene type latexes in resilient hair padding, and for nonwoven fabric binder and adhesives, the company reports.

Under development for three years, Latex 2582, according to Dow, has superior resistance to metal staining, is lighter in color, lower in odor, and has improved light stability. Dow claims great versatility for the new material stemming from stability of the emulsion system used in its manufacture, and the compatability of the vinyltoluene-butadiene coplymer. Dow says the product also is extremely versatile in vulcanization procedures.

(Request Item No. K-18)

Sight Glass Indicators

Jordan Industrial Sales Division of OPW Corp. has announced that its monel Visi-Flo sight glass indicators are now available from stock. Visi-Flos are used wherever it is necessary to know what's happening inside a pipe. They indicate direction, rate of flow, viscosity, color, clarity and purity of product. Monel Visi-Flos give excellent corrosion resistance needed in many applications. Service recommendation chart, dimensional drawings, styles and features are fully described in free 4-page Bulletins F-6 and SRB 41-58. Monel Visi-Flos available in ¼ through 2" sizes, in style 444, and ¾ through 4" sizes in styles 40 and 44. Monel Visi-Flos are suitable for pressures to 125 p.s.i. and temperatures to 225° F. (Request Item No. K-19)

Nylon Staple Carpet Fiber

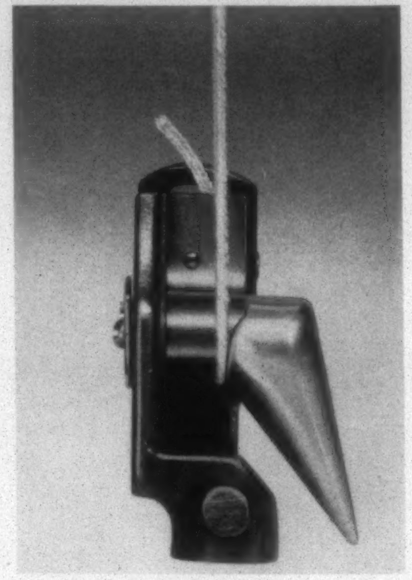
The introduction of a nylon staple fiber that can be used on the wool, cotton or worsted systems of spinning has been reported by the nylon division of Industrial Rayon Corp. The production of this fiber, which is designed specially for floor coverings, follows an intensive evaluation program carried out under actual manufacturing conditions in several commercial plants.

All of the tests indicate that this one fiber can be used with equally good results on any of the three major spinning systems, it was stated. It also is being manufactured in long lengths for the jute spinning system. The fiber is regarded as particularly advantageous to those carpet manufacturers who utilize more than one type of spinning system. In addition to its added flexibility in use, the fiber has greater bulk and excellent processing efficiency.

The nylon fiber is said to be crimped and set in such a manner as to allow for twist-setting if desired. It is being produced in bright and dull lusters in both 15 and 22 denier for the carpet industry. The selling price remains at $1.08 a pound.

(Request Item No. K-20)

Yarn Guide



Scott Testers has introduced this new quick-insertion automatic centering yarn guide.

Addition of a quick-insertion automatic centering yarn guide to its heavy yarn and cord clamp has been announced by Scott Testers Inc. The new horn guide on this side-insertion clamp is aimed at giving the operator utmost speed in locating the yarn specimen at the exact center line of the pulling force. These clamps are made in two sizes, for 75 and 400 lbs. pull, and the locking cam is adjustable for various diameters of cords or yarns.

(Request Item No. K-21)

Tension Meter

A new tension meter, with a range as high as 50 lbs., has been developed to check tension on moving yarns, sheets, tapes and other filamentous and also flat materials. Tensitron Inc., manufacturer of the instrument, says it features a novel lever inserting mechanism, both outer rollers are lowered simultaneously. This opening permits placing the yarn or tape between the rollers. Upon moving of the lever in the other direction, the yarn is put in test position. Then the sensing roller in the center is lifted elastically in proportion to the strain. This motion, amplified over a shockless spiral movement, is indicated on the dial with good legibility. The gage mechanism averages the readings for steady observation of the average tension though the latter be fluctuating.

The housing is finished in black wrinkle designed to give a sure grip even with wet hands. Protruding parts on the aluminum base plate protect fingers from contact with cutting yarns or cords at high speed.

Precision ball bearings in the rollers are said to permit the use of the tension meter even when the yarns travel at thousands of feet per minute. The new tension meter can be inserted and readings taken while the yarns or other materials are running. No stopping of the machine is necessary any longer to make a tension reading.

This unit can also be made with flat 1" rollers. It can be inserted then into the side of a moving sheet of cloth. Simple multiplication with the width of the sheet in inches indicates then the total tension.

(Request Item No. K-22)

Nonwoven Equipment

For a number of years Proctor & Schwartz has offered the textile industry complete lines for manufacturing nonwoven fabrics having a parallel or semi-random fiber array. This company now announces the completion of its research and development program and the addition to its line of equipment for manufacturing nonwoven fabrics with non-oriented fiber array.

This development makes available to the industry two new production units for use in new or existing nonwoven fabric ranges. For average quality industrial types of nonwoven fabrics a very simple machinery arrangement can be used, consisting of a scale pan weighing feed and the new Proctor Duo Form web forming unit. This equipment will form non-oriented webs of cotton, wool, synthetics, jute and hair, ranging from 2 to 15 denier and staple lengths from ½ to 1½". Widths of web may be up to 84" wide with weights varying from 1 to 15 oz. sq. yd.

The weighing feed provides for coarse opening and metering of the fibers. The Proctor Duo Form utilizes a high speed main cylinder with workers and strippers which are said to open the stock to single fibers by carding action and provide leveling and blending. An intermediate high speed doffer transfers the opened, leveled and blended stock to the second main cylinder which operates at a very high speed for maximum draft and resultant fiber separation. Fibers are stripped by air and formed into a non-oriented web on a screened cylinder for delivery from an apron.

Feeds with a compensator and delivery gates are available for additional accuracy and, for extreme opening, widthwise evenness and fiber to fiber blending, the Proctor Duo Form can be fed from existing batt lines (picker, willow, condenser, feed, garnet, lapper). Proctor's equipment recommendation for new plant installations is: a weighing feed, a metallic clothed synthetic card, a broadband intermediate feed and a Proctor Duo Form, delivering to the necessary bonding unit, dryer and curer.

Production capacity of unbonded web on the Duo Form ranges as high as 200 lbs./hr. depending upon fiber selection. For the production of low-cost nonwoven fabrics, extreme versatility can be built around the new Proctor-Form, the company reports. The basic line of equipment would consist of a weighing feed, a breaker garnett and intermediate feed and the Proctor-Form, delivering to the subsequent finishing operations.

Maximum versatility can be provided by the use of certain basic items of equipment and a lapper arranged to form a T as follows: A weighing feed, a breaker garnett and a camelback type of lapper delivering to a floor apron extending both to the left and righthand side of the lapper. This floor apron can then deliver either to a standard batt head or finishing equipment for making a semi-random nonwoven fabric or it can feed in the opposite direction to a Proctor-Form for making a non-oriented nonwoven fabric, or the traverse apron of the lapper can be locked in place and the web can then be delivered straight away from the doffer of the garnett which is extremely common practice in making nonwovens where extreme loft is desired.

The feed, garnett and lapper provide the necessary opening and lateral and longitudinal evenness for the Proctor-Form to produce an even web. This unit converts the oriented web from the lapper into a non-oriented web or batt by means of a lickerin feed roll to open the stock. The high speed main cylinder carries the stock to an air transfer point and a screen cylinder against which the stock is formed. This set-up is most satisfactory on short loose stocks, or slippery fibers such as cotton, short uncrimped synthetics, short wools, etc. Capacity ranges up to 200 lbs. per hour, depending upon fiber and quality. The units are all designed and built to operate 8, 16, or 24 hours a day for continuous, uninterrupted production. With crimped stock or stock with cohesive properties, capacity will be reduced, depending on quality desired.

These units, Proctor-Form and Proctor Duo Form, are offered in addition to the single and duplex garnett-cards for producing oriented types of webs. They also round out the complete line of equipment for range type of installations which Proctor has supplied to some of the pioneer producers and now leaders in the field of nonwoven fabrics.

This complete line includes bale breakers, pickers, shredders, blending feeds, patented roller distributor for blending, garnetts, garnett-cards, cross-lappers, automatic overhead conveyors, applicators, dryers, curers, slitters and winding heads.

(Request Item No. K-23)

Water-Cooled Air Conditioner

New self-contained water-cooled air conditioners in 15, 30, 45, 60 and 75-ton capacities have been introduced by Typhoon Air Conditioning Co., division of Hupp Corp. They incorporate 2, 3, 4 and 5 h.p. hermetic compressors respectively. The 75-ton unit is said to be the first of its size on the market.

The new units are part of Typhoon's complete line of air conditioners for 1959 called The Golden Anniversary Line to commemorate Typhoon's 50 years in the air conditioning industry. According to the company, the 15 h.p. compressors used in the new models offer full capacity operation at lower prices than previous models of comparable size employing combinations of smaller compressors.

In addition to the advantages of larger compressors, the new units are said to offer reserve power capacity that assures full cooling effectiveness on hottest days; all copper tube-within-tube condensers that operate on city water or cooling tower without change of circuits; and easy installation made possible by complete factory assembly and internal wiring, leaving only simple connections to complete installation.

The 30-ton unit, measuring 84" wide, 45" deep and 92" high, has a capacity of 364,000 b.t.u./hr.

The 45, 60 and 75-ton units, measuring 120" wide, 45" deep and 103" high have b.t.u./hr. ratings of 558,000, 610,000 and 728,000 respectively. Steam heating coils are available with all models.

(Request Item No. K-24)

Chemical Analyzer

A new chemical analyzer available from Florida Instrument Co., division of Milton Roy Co., is designed to make automatic colorimetric analysis simple and inexpensive. Known as the Chemalyzer, this unit is said to be the ultimate in design sim-

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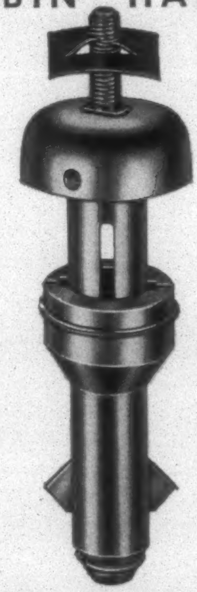
HARTFORD

AUTOLATCHING BOBBIN HANGER



takes all sizes of packages from

8 x 4

to 12 x 7

- Positive latch — easier creeling — low cost
- Simplifies cleaning
- Free-running ball construction
- Side brake available for proper tension

HARTFORD MACHINE SCREW COMPANY

DIV. OF STANDARD SCREW CO. BOX 1776, GREENVILLE, S.C.

plicity, with no moving parts and no electric or pneumatic power required for operation.

Titration followed by colorimetric examination has long been one of the most widely used chemical testing techniques for determining such values as pH, iron content, water hardness, phosphate content and hydrazine content of water used in textile industry processes and boilers. Both manual and automatic methods are commonly used at present.

Automatic analyzers, such as the Milton Roy Co.'s Quantichem automatic colorimetric recording analyzer, are said to eliminate human error and the time lag between sampling and test results. These analyzers provide readings within a few parts per billion—the ultimate in accuracy and sensitivity. However, for routine analysis in textile mills where such extreme accuracy is not required, a lower-cost unit is now available.

Costing less than $350 the Chemalyzer will fill this long-standing need for a less precise, less expensive unit. It will be within the means of practically any mill operator. Accuracy is adequate for normal sampling, ranging within 2 to 5% of the reading, the company reports. Because there are no moving parts to wear out, no maintenance is required. And an untrained operator can easily make checks on the spot, with no time delay while he carries samples to the lab. In many installations, the Chemalyzer will in effect move the lab into the mill for greatly improved process efficiency, it is pointed out.

(Request Item No. K-25)

Penetrant For Flame Proofing

Emkay Chemical Co. has found a new use for its Emkatex DX. When added to the chemical bath containing flame proofing chemicals, this product is said to increase the absorption of the chemicals, assuring more even and uniform application.

Tests are reported to have shown that 1-2 qts. per 100 gal. of finishing liquor is sufficient to give greatly improved results. Technical data sheets are available from Emkay Chemical Co.

(Request Item No. K-26)

Thermo-Reacting Resin

A new thermo-reacting resin finish for imparting durable crease resistance and dimensional stabilization to cotton and rayon fabrics, with greater resistance to chlorine retention, now is available from The Du Pont Co.

Trademarked Zeset MC, the finish has been developed especially for use on wash-and-wear fabrics. Crease resistance and dimensional stabilization obtained with it are said to be reduced only moderately by repeated home launderings or accelerated wash tests starting at the boil.

The hand of fabrics treated with Zeset MC fabric stabilizer can be modified by co-application of softeners or bodying agents, according to the company's dyes and chemicals division. Use of Avitex K softener with the new product, it is said, not only imparts a desirable hand to treated fabrics but increases their resistance to mussing during laundering and gives a good degree of spot and stain resistance.

(Request Item No. K-27)

Defoamer

A new defoaming agent for use in textile operations has just been developed by Nopco Chemical Co. Called Nopco KF-99, the product is designed to control foam in dye, size and scour baths, in bleach and boil-off solutions and in latex and resin emulsions.

Nopco KF-99 is said to be a readily dispersible liquid that is effective in small amounts. In dye processes, such as pad, jig or package dyeing, only 1 to 4 ozs. of Nopco KF-99 per 100 gal. of dye bath are required. The product does not affect printing paste viscosities, it was reported.

(Request Item No. K-28)

For the Mill Bookshelf

Low Pressure Compressors

A new 8-page bulletin covering Joy Mfg. Co.'s complete line of heavy duty, low pressure compressors has been announced. Specifications on three models ranging from 756 to 7392 c.f.m. and a detailed sectional drawing are included. There is also a complete run-down with illustrations on all the vital parts and features. Ask for Bulletin A-95. (Request Item No. K-29)

Flexible Hoses And Ducts

Bulletin 82 describing the use of Flexaust hose and Portovent duct for use in dust control has been published by The Flexaust Co. Included in the 6-page bulletin are charts of the sizes and prices of the hoses and ducts and a list of accessory prices. Flexaust hose and Portovent duct are said to be economical, lightweight, durable, airtight and extremely flexible.

(Request Item No. K-30)

Spinning Rings

Kluttz Rings Inc. has published a bulletin describing its new process of treating spinning rings. The brochure describes the process of Lubri-Casing, which is said to not only provide a superficial coating on the surface of the ring but to also penetrate into the steel to controllable depths. Traveler life and speeds have been greatly increased, the firm reports, with fewer ends down and higher quality yarns. The booklet shows, with many illustrations, how the rings are treated, cleaned and hardened.

(Request Item No. K-31)

Printing With Emulsions

American Cyanamid Co. has reported the publication and availability of technical bulletin No. 852, entitled "Printing With Emulsions." The bulletin, authored by Ralph D. Greene of the firm's dyes department, covers vat-printing emulsion, emulsifying equipment, print-color preparation, screen printing, flash aging, emulsions for azoic dyes and emulsion for aniline black.

(Request Item No. K-32)

Sulfonated Oils

New textile uses for the sulfonated oils known as Nopcosulfs have been compiled in a technical data bulletin recently issued by Nopco Chemical Co. As aids for processing cotton, wool, and rayon, the Nopcosulfs act as softeners, penetrants, wetting agents, and dye assistants.

They are said to improve such operations as the sanforizing, desizing, and finishing of cotton piece goods and the scouring of rayon and wool. They also serve as dye levellers, plasticizers for starch, and emulsifiers for textile lubricants.

(Request Item No. K-33)

Pallet Handling

A new 24-page handbook "Pallet Handling in Narrow Aisles" is now being distributed by The Raymond Co. The handbook describes the principle types of trucks available for narrow aisle operations and shows on-the-job pictures of the equipment in use. (Request Item No. K-34)

Reduced Voltage Starter

Design and construction features of Allis-Chalmers automatic reduced voltage starters are described in a new bulletin released by the company. Called "Automatic Reduced Voltage Starters," the bulletin includes a motor control engineered for centrifugal compressors, hammer mills, pumps, large conveyors, large fans, motor-generator sets, and other applications.

Covering the range of automatic reduced voltage starters from 50 to 1200 h.p., 600 volts, the bulletin carries descriptive copy on the theory and operation of low voltage starters. In explaining the need for the use of low voltage starters, the bulletin lists the advantages of autotransformer, closed transition connection (Korndorfer), primary resistor and reactor, part winding, and star-delta starters.

In addition, starting characteristic calculations, horsepower ratings, features of the contactors, relays, and fuses are covered. A pocket on the inside cover is provided for the insertion of individual engineering data sheets containing full information on each size and type of starter.

(Request Item No. K-35)

Materials Handling Equipment

Methods of leasing materials handling equipment are described in a new 4-page 2-color circular published by Lewis-Shepard Products Inc. Three plans to acquire equipment without tying up working capital are included in the circular. The plans are lease option, straight or true leases and "power package" leases.

Under the lease option plan, the lessee takes title to the equipment at the completion of payments. With straight or true leases, title to the equipment remains with the lessor. "Power package" lease plans allow the user to lease the battery and charger for his electrically-powered fork lift trucks. (Request Item No. K-36)

Materials Handling Equipment

A 2-page, fully-illustrated article describing methods of selecting the correct materials handling equipment to achieve maximum space, time and manpower savings is among the features of the Fall issue of the Lewis-Shepard Lever, now available free from Lewis-Shepard Products Inc.

(Request Item No. K-37)

V-Belt Drives

A new 12-page illustrated manual, "How to Get Longer Life from V-Belt Drives," has been issued by B. F. Goodrich Industrial Products Co. The manual tells how to select and install V-belts, how to detect V-belt trouble, diagnose belt failures, correct drive troubles. A list of valuable tips for proper V-belt maintenance is included as well as a suggested inventory survey check list for V-belt drives. (Request Item No. K-38)

Jute Mesh For Nonwovens

A new folder, "How Can Vanguard Jute Mesh Improve Your Nonwovens?," is available at no charge from Ludlow Mfg. & Sales Co. (Request Item No. K-39)

Socket Screw Products

A new 28-page catalog on socket screw products was recently published by Set Screw & Mfg. Co. Included for the first time are the recently introduced Setko socket shoulder screws, flat heads, button heads and dowel pins. Also shown is the expanded line of Setko "perfect-hole" cold forged socket head cap screws.

A feature of the new catalog is the inclusion of the Setko originated self-locking set screw selector chart. Over 1,001 combinations of metals, locking actions, points and suggested applications make this chart a valuable assistance in selecting the right set screw for the application.

(Request Item No. K-40)

Boltless Steel Shelving

A bulletin presenting the new Penco T line boltless steel shelving has been published by Penco Division, Alan Wood Steel Co. Designated as Bulletin B--40, this new 8-page, 2-color booklet describes and illustrates six styles of Penco T line open and closed types of plain and ledge shelving. The bulletin also illustrates how Penco's new channel clip design gives the T line shelving advantages of fast installation, easy rearrangement, and high strength and rigidity. (Request Item No. K-41)

Textile Chemicals

A new booklet, "Textile Chemicals For Dyeing, Bleaching and Finishing," has been published by Mac Chemical Co. The booklet covers characteristics and uses of the firm's line of softeners including the cationic and surface active types and scouring agents. Also included is a table of conversion factors and a Centigrade-Fahrenheit scale.

(Request Item No. K-42)

Motorized Gear Drive

The Louis Allis Co. has published a 4-page bulletin, No. 2350, on its new Line-A-Spede motorized gear drives. These drives are gear reducers powered by standard N.E.M.A. frame motors mounted on a shelf attached to the reducer. The bulletin illustrates how the Line-A-Spede facilitates standardization of motors to reduce inventory and permit rapid motor changes—vital in continuous operation applications such as conveyors, process equipment, agitators, etc. (Request Item No. K-43)

Overhead Cable Conveyors

Complete details on the extensive applications of Bush-Lock Universal overhead trolley cable conveyors are offered in a new fully-illustrated 4-page bulletin published by The E. W. Buschman Co. Bulletin 40A describes the Buschman selection of standard stock components available with the Bush-Lock conveyor, and how they can be customized into a highly efficient overhead trolley system for a wide variety of functions.

(Request Item No. K-44)

Water-Proofing Agent

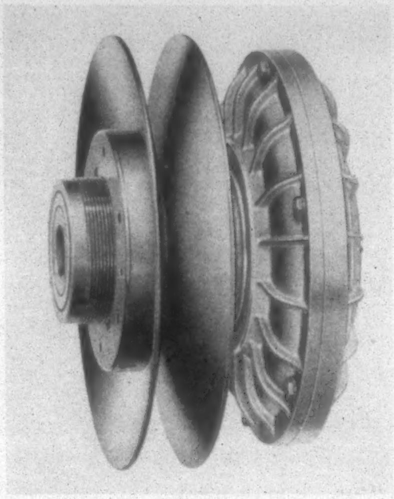
A bulletin describing Quilon chrome complex, economical waterproof surface treating agent for textiles, has been published by The Du Pont Co. Quilon is reported to have gained broad acceptance in the textile industry in both Europe and the U. S.

Spray rating of 80 to 90 (A.A.T.C.C.) can be obtained on wool, 90 rating on rayon and nylon, and a 100 rating on Dacron polyester fiber and Orlon acrylic fiber by treating the fabric with Quilon, Du Pont reports. The water repellency provided has excellent permanency when dry cleaned, and its hydrophobic properties strongly resist wicking and water spotting by sensitive dyes.

The booklet describes the uses of the agent, its chemical properties, treating solutions and toxicity.

(Request Item No. K-45)

Variable Pitch Drive



Dodge Mfg. Corp. introduced its new Flexidyne variable pitch drive at last month's Southern Textile Exposition.

Bulletin A689 describing the new Flexidyne variable pitch drive has been published by Dodge Mfg. Co. The drive is said to provide soft starts, fewer ends down, uniform yarn, less down time, less motor strain and overload protection. By combining its variable pitch sheave with a 9D Flexidyne drive as an integral unit, the company reports that cushioned starting in a range of pitch diameters from 5.5 to 10.0 can be provided.

Flexidyne is a dry "fluid drive" said to employ a new principle. The "fluid" is heat treated steel shot, which acts as does the fluid in a conventional fluid drive. The 2-page bulletin contains a chart of center distances for various R belts.

(Request Item No. K-46)

Chemical Process Bulletin

Chemical processing is the subject of a 6-page color bulletin published by Graver Water Conditioning Co. The bulletin details the equipment and services available from Graver in the field of chemical processing.

Among the processes which Graver is offering and which are described in the bulletin are ion exchange, sedimentation, filtration and flotation. Equipment for each of these is illustrated and described.

A highlight of the bulletin is a section on what the latest methods of chemical processing can mean to industry. Subjects discussed include product upgrading, by-product recovery, recovery of valuable materials and processing methods. The company offers a line of specialized units and has full laboratory facilities to do research into new equipment and techniques.

(Request Item No. K-47)

Serving The Textile Industry

Reynolds Metals Co. Names Barnhardt Bros. As Agents

Reynolds Metals Co., Richmond, Va., has appointed Barnhardt Bros. Co., Charlotte, N. C., as selling agent for Reynolds Reymet aluminum yarn in 12 Southeastern states.

Barnhardt Bros. will represent Reynolds Metals in the sales of Reymet metallic yarn products in Virginia, South Carolina, North Carolina, Georgia, Florida, Tennessee, Kentucky, Mississippi, Alabama, Arkansas, Louisiana, Missouri and Texas.

Reynolds Metals pioneered non-tarnishing metallic yarn in 1937 and last year introduced its first workable metallic yarn in staple form. It is now available in 42 colors.

Saco-Lowell Sponsors Southern Tour For Staff

More than 100 persons connected with Saco-Lowell Shops, Boston, Mass., visited the company's operations in the Carolinas on a special tour this month. All of the firm's officers, representatives from the executive office in Boston, from each of the six divisions and sales and service personnel took part in the tour.

The group visited the plants in Sanford and Jonesboro, N. C., and Easley and Greenville, S. C. The tour closed with a two-day sales, service and engineering discussion at Clemson, S. C.

Purpose of the trip was to enable company personnel to see first-hand the consolidation of all its textile machinery manufacturing and sales in the South and to develop better service and better products through the exchange of ideas.

Palmetto Service Corp. Changes Name, Location

The name of Palmetto Service Corp., Pendleton, S. C., has been changed to Deering Milliken Service Corp. and the department has moved to its new location in Spartanburg, S. C., according to a recent announcement by the company. The company's new address is P. O. Box 1926, Spartanburg, S. C., and the telephone number is 5-4221.

Synthron Inc. Merges With Crest Chemical Corp.

Synthron Inc. of Ashton, R. I., and Crest Chemical Corp. of Newark, N. J., which maintains a warehouse in Charlotte, N. C., both producers of textile specialties for dyeing and finishing, have merged, according to Dr. B. Robert Schwartz, president of Crest. There will be no change in name it was reported. No financial data are available yet. Secretary is Maurice Grayson, formerly of Crest; treasurer is Robert Zametkin, formerly president of Ashton; George O. Linberg will continue as New England sales manager for Synthron.

Dr. Schwartz will head research and production and Grayson and Zametkin will be responsible for sales. The president added that new Southern plant research and customer service laboratories are being planned for the firm. Crest has the warehouse in Charlotte, but no site has been selected for the new plant.

The Newark plant manufactures surfactants, sequestering agents, softeners and dye fixatives and will operate as an independent division. Synthron will continue to manufacture synthetic resins, detergents and finishes at Ashton.

The purpose of the merger, Dr. Schwartz said, is to provide a full line of products at both manufacturing points. He said the firm plans to enter several new fields, including producing chemicals for nonwoven textiles.

Loom Winder Orders Increase At Universal Winding Co.

Orders for Unifil loom winders, Universal Winding Co.'s new development for winding filling yarn on the loom itself, have been snowballing since the Southern Textile Exposition, the company reports. Orders for 6,500 Unifil loom winders have been received since the show opened on October 6th.

Over 80% of the recent sales are reported to be repeats and come from such companies as Burlington Industries, Keystone Weaving Mills Co., Schwarzenbach-Huber Co., and J. P. Stevens & Co. The repeat orders include mills weaving fabrics made from cotton as well as filament and spun yarns. Making their initial orders of Unifil loom winders are Beaunit Mills, New York City; Glen Raven (N. C.) Silk Mills, and Marion (N. C.) Mfg. Co.

Ralph Gossett & Co. Adds New Accounts

Ralph Gossett & Co., Greenville, S. C., manufacturers representatives, has announced that it has opened two new divisions and has taken on several new accounts.

The new divisions are a yarn sales division and a textile chemicals division. The new accounts are: American Paper Products Co., Philadelphia, Pa., manufacturer of paper cones, parellel tubes, spiral tubes, spools and paper specialties; Nylco Products Inc., Clinton, Mass., producer of metallic yarns; Brawer Bros. Silk Co., Hawthorne, N. J., producer of all types of synthetic yarns; Para-Chem Inc., Philadelphia, manufacturer of synthetic organic chemicals for the textile industry. Gossett will act as Southern representative for these firms.

The company also announced the appointment of H. R. Holt of Burlington, N. C., as sales representative in the eastern section of North Carolina and the state of Virginia.

Werner Textile Consultants Moves To New Quarters

The opening of its new New York offices at 1430 Broadway (Lowenstein Building) has been announced by Werner Textile Consultants, U. S. textile consulting firm. The new premises, which were officially inaugurated with an open house party October 29, have been designed to serve as a centrally located service headquarters. The firm continues to maintain its planning and research departments in Larchmont, N. Y., and its Southern office in Atlanta, Ga. Prior to its move to the center of New York's textile district, Werner Textile Consultants' New York office was located in the Lincoln Building, opposite Grand Central Station.

J. W. Collier Co. Names D. C. O'Hair Co. Agent

The J. W. Collier Co. of Providence, R. I., has announced the appointment of D. C. O'Hair Co. as exclusive sales representatives of the Collier textile repair and parts services in the Virginia and North Carolina markets. This association brings together two firms who specialize in the spinning ring field. O'Hair maintains service centers and offices on Route 1, Matthews, N. C.

Charles Tanner Opens New Southern Plant

The Charles S. Tanner Co. of Providence, R. I. has announced the opening of a new Southern plant in Greenville, S. C. The plant is located on the Furman Hall Road, just off 291 By-Pass.

The new plant consists of approximately 10,000 square feet, providing ample space for both warehouse and manufacturing facilities. This Southern addition will enable the Tanner Co. to offer maximum service and efficiency to the textile finishing trade.

American Viscose Corp. Closes Roanoke Plant

Rayon textile yarn manufacturing operations at the Roanoke, Va., plant of American Viscose Corp. were terminated in late October. Henry H. Bitler, vice-president and general manager of the fibers division, pointed out that this schedule followed the plan of orderly curtailment announced in mid-Summer.

This plant was engaged in the manufacture of Filatex elastic yarns. Negotia-

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1926 "IF IT'S PAPER" 1958

tions are under way for the sale of the facilities for producing these yarns so that customers may enjoy a continuity of supply despite the necessity of having to transfer the operations to another location.

The entire Roanoke plant establishment will be sold including land, buildings and equipment. The 208-acre property is located on the Roanoke River on the southern edge of the city. Building floor areas total over 1,600,000 square feet exclusive of the steam power plant built in 1952.

Dow Chemical Co. Reports Increase In Net Earnings

The Dow Chemical Co., Midland, Mich., has reported net income of $11,175,730, or 43 cents per share of common stock outstanding, for the first quarter ended August 31, 1958. Sales for the period totaled $157,209,359.

During the same period of 1957, net income was $14,137,911, amounting to 56 cents per share on sales totaling $166,302,267. Net income for the fourth quarter of the fiscal year ended last May 31 was $9,153,160, or 35 cents per share on sales which totaled $154,156,776. In the first quarter, earnings before taxes were $21,520,182 compared with $28,577,287 the previous year.

U. S. and foreign income taxes were $10,344,452 as against $14,439,376, and depreciation and amortization totaled $20,884,000. At the end of the quarter the company had 25,987,975 shares of common stock outstanding as against 25,227,338 on August 31, 1957.

Electro-Motion Corp. To Sell For Lindly

Electro-Motion Corp., 217 West Morehead St., Charlotte, N. C., has been named representative for North and South Carolina and portions of Tennessee and Virginia for Lindly & Co., Mineola, N. Y., manufacturer of electronic, photoelectric, electromagnetic, optical measurement, detection, inpection and control systems.

Typhoon Air-Conditioning Offers New Lease Plan

A lease plan designed to permit commercial and industrial establishments to have the benefits of air-conditioning without reducing working capital or credit available for other purposes has been announced by Typhoon Air Conditioning Co., division of Hupp Corp., Brooklyn, N. Y.

Under the plan a business can get a complete air-conditioning system especially designed for the particular building without investment in equipment or installation work.

Typhoon, a leading producer of equipment for commercial and industrial establishments and central residential units, initiated the plan as part of its 1959 sales program. The company introduced its 1959 line, which includes package units of 3 to 75 ton capacity, in September in an effort to promote Fall and early Winter installations. In addition to conservation of capital and credit, leasing is said to offer a tax advantage because money paid out is charged off immediately instead of under a regular depreciation schedule based on equipment life.

Chemstrand Corp. Earnings Show Continued Improvement

Sales and earnings of the Chemstrand Corp., New York City, continued to improve in the third quarter ended September 30, 1958. Sales on a consolidated basis for the third quarter were $47,116,000, compared with $39,995,000 for the preceding quarter. The total for the nine months was $119,295,000.

Net earnings on a consolidated basis after all charges and taxes for the quarter ended in September were $5,342,000, compared with $4,491,000 in the second quarter. Net earnings for the nine-month period were $11,719,000.

New Company Formed To Sell Ultramarine Blue Pigment

The formation of a new corporation, United Ultramarine & Chemical Co., has been announced by William F. Siemon Jr., executive vice-president of the company. With executive offices at 149 Broadway, New York City, and sales agents and warehousing throughout the U. S. and Canada, it will market a full range of ultramarine blue pigments and allied chemicals manufactured by the parent company, Vereinigte Ultramarin Fabriken A. G. of Cologne, Germany.

For the past several years, since ceasing its own manufacture of the pigment, American Cyanamid Co. has been supplying the North American maket with ultramarine blue made by Vereinigte Ultramarin Fabriken. In line with a current policy of concentrating efforts on products of its own manufacture, the pigments division of Cyanamid has discontinued the resale of ultramarine blue. The pigment is used widely in textile coatings.

Warner & Swasey Subsidiary Is Made Company Division

The Warner & Swasey Research Corp. has been made the control instrument division of The Warner & Swasey Co., Cleveland, Ohio, under the direction of manager W. S. Tandler. Set up as a subsidiary company in 1954 when The Warner & Swasey Co. purchased controlling interest in the Industrial Scientific Co., the Warner & Swasey Research Corp. is now wholly owned as it becomes a company division.

The headquarters for sales engineering and manufacturing of the control instrument division is at 34 West 33rd Street in New York City, according to Walter K. Bailey, president of Warner & Swasey

With the addition of the new control instrument division, the Warner & Swasey Co. operations now consist of: The machine tool division and the textile machinery division in Cleveland, Ohio; the Gradell Division in New Philadelphia, Ohio; the Duplex Division at Lansing, Mich.; the Badger Division at Winona, Minn.; and the Sterling Foundry Co., foundry subsidiary at Wellington and Sandusky, Ohio.

Celanese Corp. Reports Sales And Earnings Increase

Celanese Corp. of America and its domestic subsidiaries have reported net income of $10,082,719 or $1.12 per share of common stock for the nine months ended September 30, compared with 1957 earnings during the same period of $8,546,368 or 86 cents a common share.

Net sales for the first nine months of 1958 were $163,573,099, exceeding by 12% the $145,569,988 sales volume of the comparable 1957 period. For the three months ended September 30, the company reported net sales of $59,785,897 and earnings of $4,381,374, equivalent to 55 cents a common share. This compares with 1957 third quarter sales of $50,264,997 and earnings of $2,932,478, equivalent to 30 cents a common share.

British Rayon Equipment Now Available In The U. S.

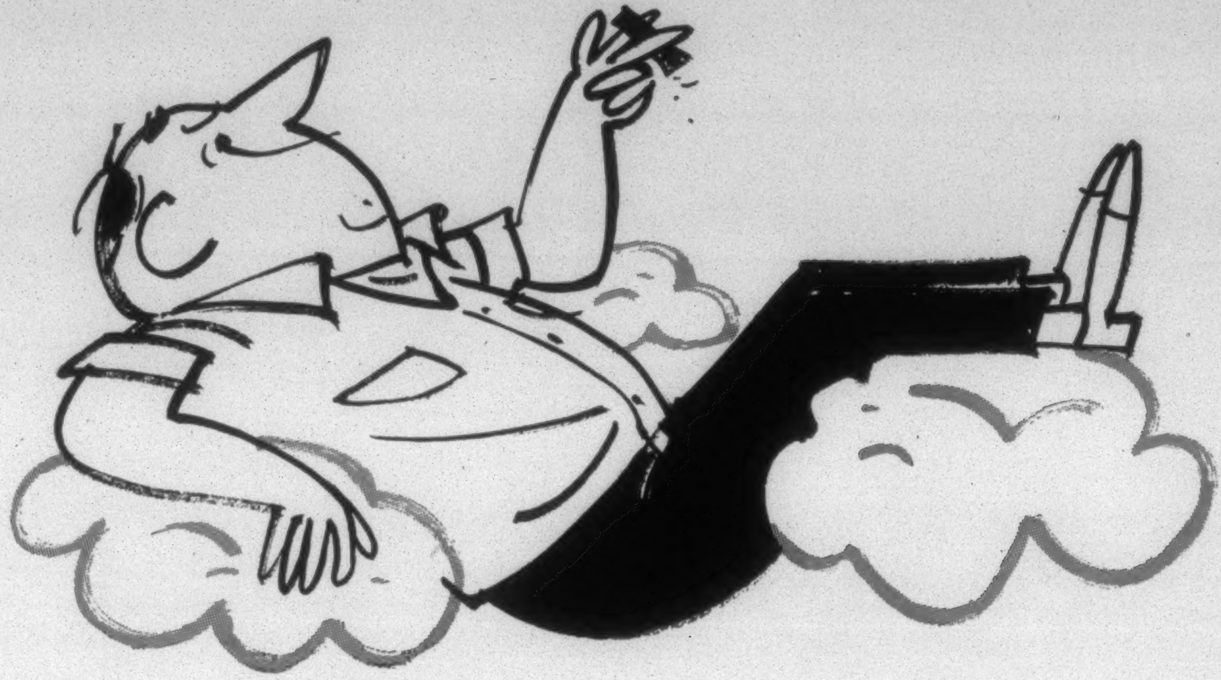
Textile testing equipment developed by the British Rayon Research Association is being made available to the U. S. textile industry through an arrangement made with Stellamcor Inc., of 10 East 43rd Street, New York City. While the equipment was developed primarily for use by producers of filament yarns, it has much wider use throughout the textile industry.

To date, six units are being made available. They are manufactured under license of the B.R.R.A. by Louis Newmark Ltd., of Surrey, England. Newmark, which manufactures quality instruments, undertook the manufacture with the understanding that the equipment would be made available beyond the confines of the British rayon industry.

Four of the units have no U. S. counterpart, the others are not readily available from U. S. manufacturers, Stellamcor reported. All are trademarked Manra.

The six units initially being made available are: (1) An electronic yarn filament counter; (2) An instrument which facilitates measuring and recording yarn tension continuously, called in British parlance a "yarn tension transducer"; (3) A strainometer for measuring whether yarn has been overstrained during winding process. It also has a replacement head for measuring friction of running yarn; (4) A vibrascope for quickly determining yarn denier. This unit with the filament counter assist in quick analysis of yarns, as produced or removed from fabric being analyzed; (5) A warp tension "balance" for measuring difference in tension between two yarns such as yarns on a loom or yarns being piled together; (6) A crimp tester.

A suitable electronic unit is also available to be used with the "yarn tension transducer" and/or the strainometer. The British Rayon Research Association reports that all of the equipment has been tested continuously for a period of at least two years.



Picture of a mill man making equipment changes to run

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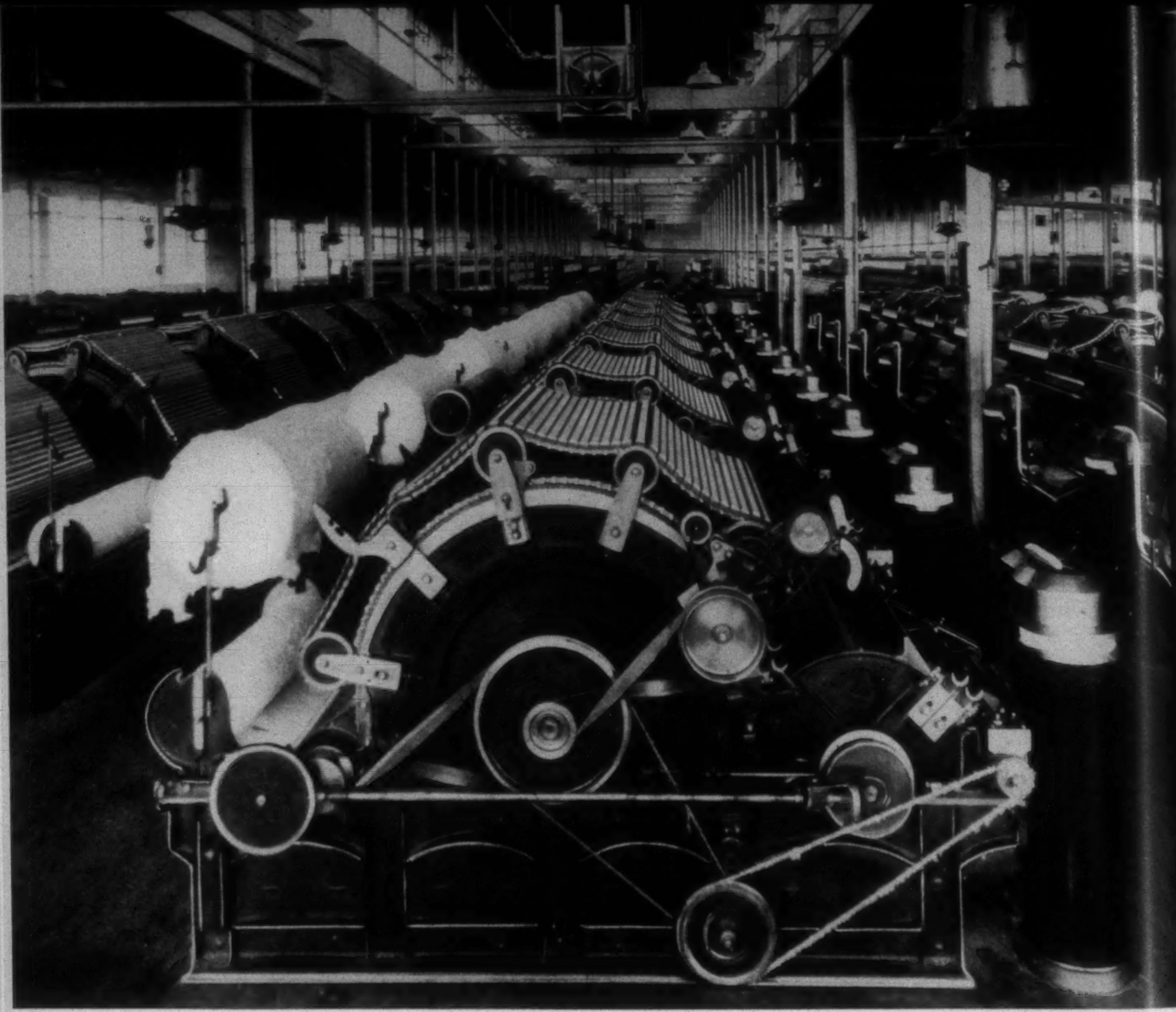

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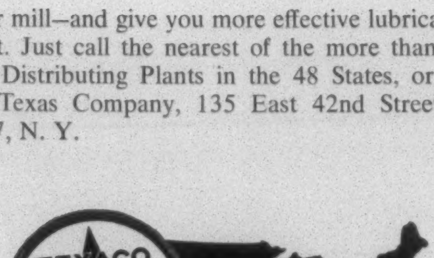

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)

textile bulletin

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Carded Yarn Association

What's Right About Textiles?

"What's Right About Textiles?" was the intriguing title given the remarks of Halbert M. Jones at last month's convention of the Carded Yarn Association. In answering the question, Mr. Jones lists a number of "rights" worth keeping in mind. Another featured speaker at the meeting was Dr. Claudius T. Murchison, retired chief economist of the A.C.M.I., who also cited some favorable signs ahead for the industry.

THE brighter side of the textile industry was the theme used by both speakers at the open meeting of the 13th annual convention of the Carded Yarn Association held October 28-31 at The Homestead, Hot Springs, Va. Halbert M. Jones, president of Waverly Mills, Laurinburg, N. C., and also of the American Cotton Manufacturers Institute, spoke on "What's Right About Textiles," and Dr. Claudius T. Murchison of Wellfleet, Mass., retired chief economist of A.C.M.I., outlined what he termed "the silver lining" for textiles in the United States' foreign trade laws.

At the business meeting A. J. M. Wannamaker, secretary and treasurer of Orange Cotton Mills, Orangeburg, S. C., was elected president, succeeding J. A. Conner, vice-president of Hyde Park Mills, Covington, Tenn. L. E. Bowen Sr., president of Tifton (Ga.) Cotton Mills, was elevated from second to first vice-president, and O. Leonard Moretz of Carolina Mills, Maiden, N. C., was named the new second vice-president.

Elected directors were John A. Moore, Sterling Cotton Mills, Franklinton, N. C.; J. A. Long Jr., Roxboro (N. C.) Cotton Mills, Eugene Cross Jr., Cross Cotton Mills, Marion, N. C.; W. R. Austin, Avondale Mills, Sylacauga, Ala.; R. T. Davis Jr., Swift Spinning Mills, Columbus, Ga., J. M. Ledbetter Jr., Ledbetter Mfg. Co., Rockingham, N. C., and Manning Malloy, Cheraw (S. C.) Cotton Mills.

E. O. Fitzsimons of Charlotte, N. C., was re-elected executive vice-president, secretary and treasurer. R. T. Davis Jr., W. R. Austin and D. R. LaFar Jr., Gastonia, N. C., make up the new executive committee.

The conclusion drawn by Mr. Jones, a past president of the association, was that the textile industry was about

Moretz, Wannamaker, Conner, Bowen, Fitzsimons

Optimism over the textile industry's future was expressed by industry leaders at the 13th annual meeting of the Carded Yarn Association held October 28-31 at Hot Springs, Va. New officers of the association include O. Leonard Moretz, Carolina Cotton Mills, Maiden, N. C., second vice-president; A. J. M. Wannamaker, Orange Cotton Mills, Orangeburg, S. C., president; J. A. Conner, Hyde Park Mills, Covington, Tenn., retiring president; L. E. Bowen Sr., Tifton Cotton Mills, Tifton, Ga., first vice-president; and E. O. Fitzsimons, Charlotte, N. C., executive vice-president, secretary and treasurer.

to enter a new era of progress and properiety if the problems of foreign trade and raw cotton could be solved. One of the things "right" about the textile industry that caught the ear of the mill men was that "its over-all financial position has improved in the past few months to such an extent that investment advisers are now suggesting purchase of textile securities for appreciation between now and 1963."

Others he listed were that the textile industry is basic, therefore it is not expendable; that it is essential to the economy of this country with its payroll of $3.3 billion a year in 8,000 textile plants; that it spends $1,642,000,000 annually for equipment and supplies, not including raw materials; an increase in rate of productivity exceeding that of industry generally; that it offers opportunities to qualified young people comparable to or exceeding those offered by other industries; and that it stands on its own feet asking no favors or subsidies from the government.

Dr. Murchison's attitude was that the enactment of a new foreign trade law by the last session of the Congress need not be too discouraging since a number of safeguards were placed in the act. Instead he called on the industry to seek a change in the attitude of those who administer the law to employ those safeguards where needed. The urgency for "America to save the world economically" no longer exists and he cited how the industrial nations of the world (Western Europe and Japan) had built up their resources in both goods and dollars to the extent that they are now in a position to make loans to other countries.

Imports to the U. S. from the underdeveloped countries — mainly raw materials — are essential to the country's economy and account for about 75% of all our imports, he said. But manufactured goods imported from the industrial nations, whose production efficiency is on a par with that of the U. S. and which make up the remaining 25% of the import, weaken America's economy. According to the law now on the books, this must be taken into consideration by the administration in making tariff concessions. Therefore, he concluded, the trade agreements program is not in the interest of the underdeveloped areas but is in the interest of the industrialized nations. The industry has an opportunity to make this fact clear and thus bring about a change in attitude of those administering the program.

American Gas Association Conducts Second Annual Textile Symposium

THE second annual Textile Symposium sponsored by the American Gas Association and the Southeastern Gas Association has been held at the Sedgefield Inn, Greensboro, N. C. Approximately 125 textile men, equipment manufacturers and gas industry representatives attended the two-day session.

E. V. K. Schutt, Central Hudson Gas & Electric Corp., Newburgh, N. Y., was the moderator and the first technical speaker was Harold B. Sturtevant Jr., The Du Pont Co., who spoke on "The Effect of Heat and Chemical and Physical Properties of Poly Fibers." He pointed out that heat is the most important single factor connected with the production, processing and care of the modern synthetic textile fibers. Before the coming of nylon, heat was used in textile finishing basically for drying. "Today heat is a tool and allows the producer to develop fiber characteristics—freedom from shrinkage, attainment of predetermined dimensions and geometry, and resiliency."

Resin Curing

Dr. Melvin D. Hurwitz, Rohm & Haas Co., Philadelphia, Pa., spoke on "The Curing of Resin Treated Fabrics Made From Natural Fibers." The first part of his paper was devoted to chemical formulas of the different resins applied to cotton and wool fabrics. He then presented charts on the effects of time and temperature to attain desired finish characteristics. He cautioned the audience that an understanding of the chemistry of resin finishes was essential to effect the desired fabric modifications for a particular finished product.

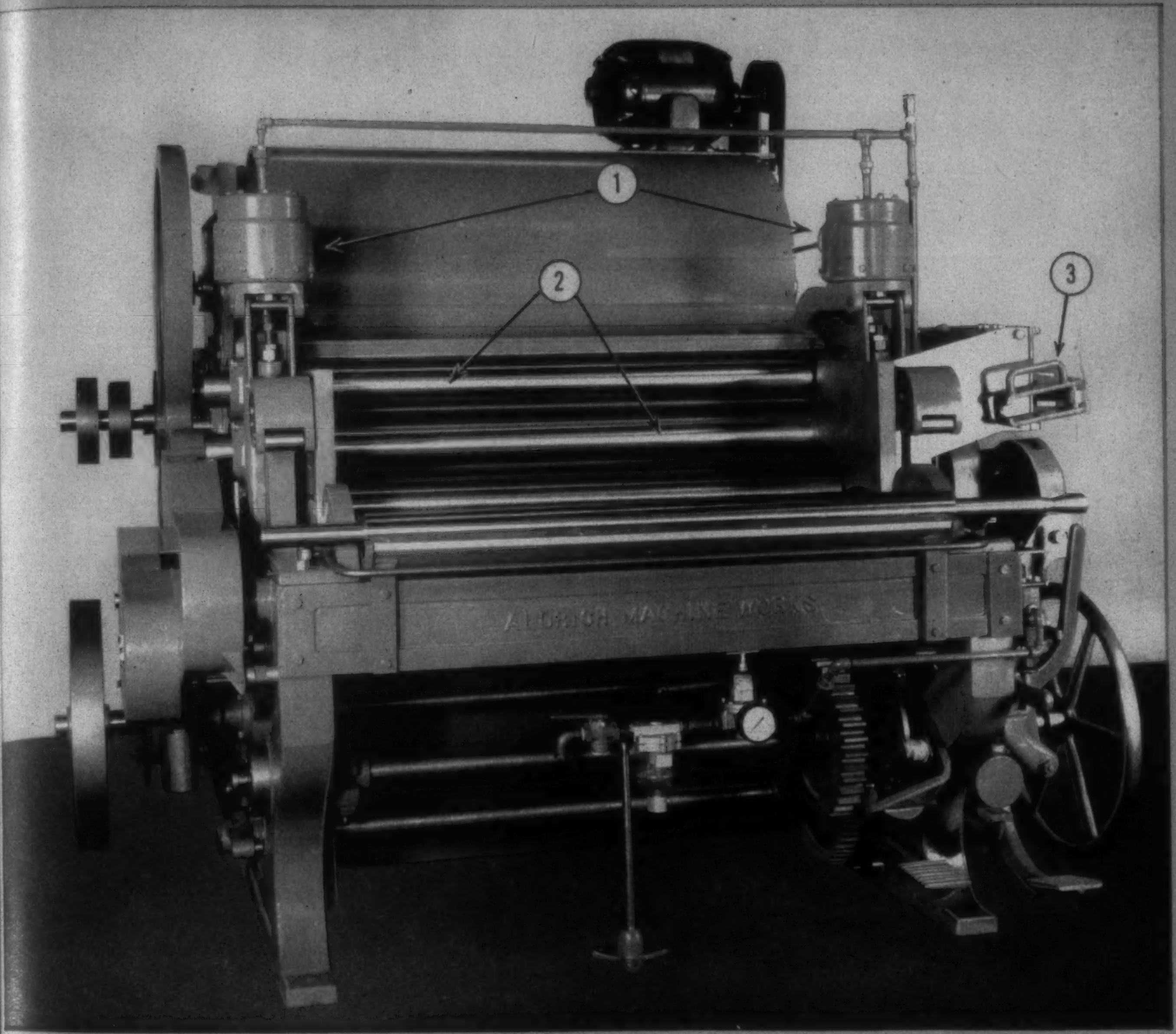
H. A. Dameron, J. P. Stevens & Co., Greensboro, N. C., told the group about the gas equipment in use at his plant. He stated that successful use of gas is predicated on using the proper equipment for the job and keeping it in first class operating condition to insure complete control and uniformity throughout all processing operations.

Dameron was followed on the speaker's stand by Normand S. Pliner, Celanese Corp. of America, Charlotte, N. C., who discussed the part engineering plays in the development of plant processing equipment. When a new fabric or process idea comes from the laboratory, the engineers take over and develop the most efficient equipment to manufacture and process it on a pilot or semi-works scale. Flexibility must be designed into this equipment so that it can be enlarged to meet consumer production demands. This involves not only engineering but also the facilities of shop, mechanical service, erection, installation, maintenance, housekeeping and safety personnel to complete the team. In all phases, ideas for ultimate economy are expected from this group.

The next speaker was W. A. Metcalfe, J. O. Ross Engineering Division of Midland-Ross Corp., New York City, whose subject was "Convection Air Application To Fabric Drying." He explained the principles of convection drying and emphasized the necessity of breaking through the vapor film which forms on the surface of wet material.

"Once these factors are known and understood, design of drying means should be produced which best fits these principles within the realm of practical limitations," he said. Metcalfe described some of his company's equipment

The ALDRICH HIGH COMPRESSION CALENDER



① Diaphragm air cylinders, having neither pistons nor stuffing boxes, apply resilient pressure up to 12,000 pounds upon the calender rolls. Resilient pressure gives more uniform calendering, and protects the calender from shock loads. All pressure is released *each* time the calender stops, and is instantly applied when it starts.

② Meehanite calender rolls, stronger and smoother than grey iron, are carried on roller bearings which fit standard roll necks. The special mountings for these bearings keep the rolls perfectly aligned at all times. This is very important where more than three times the usual pressure is applied to the rolls.

③ Pneumatic Lap Pin Extractor exerts a pull of 800 pounds to remove the pin from the tightest lap.

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showing the action of air streams from perforated plate outlets, slotted nozzles, nipple outlets and infinite impingement methods. He gave illustrations as to the most efficient use of these variations for different drying needs.

Concluding the first day's proceedings was an address by Dr. Edward R. Murray, School of Textiles, North Carolina State College, Raleigh, whose subject was, "What The Textile School Can Contribute." Dr. Murray said, "the functions of most textile schools have changed markedly in the past 20 years. This applies to both educational and research facilities. Textile schools are better staffed and better equipped today than ever before. Industry has been advancing rapidly since the end of World War II, and the productivity of both people and machines has been increasing steadily. Research and education in the textile schools have kept pace with the times; indeed, they have contributed in many instances to technological advances in the industry."

On research, he continued, "Many mills, even if they wanted to, can hardly afford the continuing expense of a substantial research staff and a laboratory. The small organization can participate in textile research co-operatively, much as the farmer supports agricultural research at practically every state college in the country. It is still too early to predict the ultimate level of research in the textile schools of the nation but it seems safe to assume that it will at least double in the next ten years. This, it seems to us, will be a major contribution to the future of the industry."

GETTING A HEAD WITH DYNEL—Dynel is getting a head start in the wig business with creations like this "Adventure in Pastel Coiffure" by Madame Tovar, herself a big wig in the woman's fashion world. Made of 100 per cent Dynel, Union Carbide Corp.'s acrylic fiber, the wig designs are available in a choice of white, Titian red, blue, pink, orchid, ash and blonde. Natural shades of blonde, titian red and black are proving most popular, Mme. Tovar reports. The wigs, or rather "Adventures in Pastel Coiffure," can be worn on damp days or in the rain without any ill effects. Probably the nicest feature, you can drop your hair off at the beauty parlor on the way to work.

In conclusion, Dr. Murray said, "Textile education has changed greatly in the past 20 years, and will change even more in the next 20. Textile school graduates will be shaping the industry of tomorrow; our greatest contribution will be to develop the qualities of leadership in these young men."

The second morning session of the symposium had John Sellors Jr., Bryant Industrial Products Corp., Cleveland, Ohio, as its first speaker. The title of Sellors' talk was "Textiles, Gas and Air." He described the many types of gas burners and combustion systems that were available for use in the application of heat in textile processing. He gave specific examples of the application of the proper type of burners and combustion systems to different processing operations.

More Research

"Profits Through Research," was the subject of Charles H. Rutledge, The Du Pont Co. He stated that research properly applied can develop anything but has to be practical to be of any use. Research alone is not a guarantee of results or profits, yet it is the life-blood of industrial existence. He went on to cite several examples of research which has resulted in drastic industrial changes one of which was Kettering's research and development of the electric automobile starter which put the Model T out of existence.

He also stated that long research projects in his company had resulted in nothing but once in a while a "nylon" comes along to make everything worthwhile. Business could not exist or progress without research and he believed that if the textile industry is to progress in pace with other industries, much more research and development must be accomplished.

Picking up this same theme, Robert C. LeMay, Selas Corp. of America, Dresher, Pa., pointed out how research in other industries had gotten results that reduced production costs, made for a better product, increased production, and in many instances had accomplished all three. This is especially true in the metalworking industries producing a web product.

LeMay implored his listeners to get into research, inquire around where there is better textile processing equipment available. Put new thinking to work and keep ahead of other world textile producers who are continually coming to this country for new ideas and equipment which together with their own research has put them ahead of us in many segments of the textile industry. He stated in conclusion that he was awaiting the day when as many inquiries came from North Carolina as are now coming from Manchester and Tokyo.

The final speaker on the program was John G. Hopping, Piedmont Natural Gas Co., Charlotte, N. C. Hopping reviewed briefly what his company had accomplished in changing over many textile establishments to gas fuel in the past few years that natural gas has been available. He recited some of the advantages that could be gained from this conversion to natural gas fuel especially in operating costs and cited a few case histories.

The Role of Supervision In Our Industrial Economy

By JOHN W. BAGWILL*

Mr. Bagwill was the featured speaker at the Fall meeting of the Northern North Carolina-Virginia Division of the Southern Textile Association. The meeting was held Saturday, October 18, at Greensboro, N. C., with H. W. Buchanan of Erlanger Mills, Lexington, N. C., presiding. Following Mr. Bagwill's remarks, the more than 250 mill men attending the meeting divided into discussion groups ranging in topic from opening and picking through quality control. Cone Mills acted as host for the meeting.

I WONDER how many of us know where the word supervisor or foreman or boss came from, and just what it means. What did it mean when it was first used? You get a pretty good picture of that if you go back to the very early days of industry in this country. We were a country of artisans, people who did the job themselves. They bought material and they made a product; they sold the results of their labor. They were skilled craftsmen. They were businessmen. As our society grew, they found that they couldn't supply the markets and do all the work themselves, so they hired somebody to help them. They hired a man who probably had no particular skills and not enough know-how to go into business for himself. The owner was the artisan. His primary asset was his skill. The unskilled man was hired to do what the owner told him to do; nothing more, nothing less.

The owner began to take on the role then, you might say, of supervisor or foreman in addition to his responsibilities as owner. He became owner-manager or owner-supervisor, whatever you wish to call him. If he was successful in whatever he was producing, he found that his market grew. Pretty soon he had to have maybe four or five men helping him. With his added duties to perform, he once in a while would have to leave his shop. He would have to leave his men on their own. So he would go to one of these men—more than likely the one that was working a little faster than the others, or was a little more conscientious than the others—and ask him to look after the shop for him while he was away.

"I know that you're a good workman. I know that you keep busy whether I'm in the room or not. I want to keep the pace going; and I'll pay you a little extra for it."

So the second man did. He became a lead man. He became a pusher. He became a pace setter. He had many titles, if you wish to call them titles. He became, also, a supervisor. Now his primary function was to supervise labor because the tools in use back then were simple. The operation was not at all complex. He didn't worry about the long range relationship of these people to the job because in this new society there was no feeling of permanency in relationships between employer and employee. The employee was perfectly free to pick up his hat and walk out any time he wanted to; and the employer was perfectly free to send the employee home at ten o'clock in the morning if the employee had finished his assignment or had caught his work up. The relationship of people and an enterprise didn't exist.

So the supervisor in the early stages is a far different animal than he is today. Not because we have a different kind of concept of management-employee relationhip. I don't think that we do have a different kind of concept. The need back then was different. The function was different. But as the industry became more complex, as jobs became more complex, the owner couldn't be in one spot all the time to supervise his employees' work. He had more duties to attend to. So he had to place more reliance on a supervisor. He had to give more care to the selection of a supervisor. And by and large he did a pretty good job. If he hadn't done an excellent job, we wouldn't be here today in this kind of industrial society.

As industry became more complex, the job of supervision became more complex. The supervisor was no longer just a lead man, a pace setter, just a pusher. He began to take on the role of a planner. He had a scheduling function. He had a co-ordinating function of working with other departments. He began to take on the role of a manager, a business man no longer strictly a labor pusher because there were many other factors entering into the cost of production other than labor. There began the power factor, the electric power, the steam factor, the overhead for maintaining the equipment, the insurance factor. He was responsible for the utilization of all those factors in his department. So he began to play a different role. But management sometime lost sight of the fact that there was another role deveolping for his supervisor to play.

I think I can illustrate that best by a personal experience with a machine shop operation. With a group of about 30 men, the machine shop was highly productive; the work was excellent; and the craftsmen were top notch. The foreman, an excellent man, was a member of the Naval Reserve and was called into active duty shortly before World War II. That meant that a new foreman had to be selected.

The best machinist in the shop was an Austrian, perhaps one of the finest skilled craftsmen in machine work and tool designing that I have ever known. He had worked in the shop longer than anybody else. So by virtue of his skills as a machinist and by virtue of his length of service, management decided that he was the man to get the job. So he was given the job. In less than a month, five machinists had left the employ of that company. Morale had gone all to hell.

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* Vice-President in charge of Public and Industrial Relations, Cone Mills Corp., Greensboro, N. C.

Now what did management overlook? It had overlooked the nature of the role that this man was supposed to play. He was a perfectionist in his work, but he knew nothing about the art of co-ordinating other people's skills and talents and getting them to bring out and utilize these skills and talents. He was such a perfectionist that he would stand over a good machinist and watch his work and become dissatisfied with it and literally nudge him away and say, "Oh let me do it." Well he did that about twice to some of these highly skilled mechanics and they thumbed their noses at him and said "Go ahead and do it." They picked up their lunch boxes and walked out.

Management had to pull this man very quickly off the job. That broke the man's heart. He left. So we lost a lot of men. We disrupted the operation of that machine ship because we in management had not fully understood the role that the supervisor was expected to play in this kind of complex industrial operation that we had. It wasn't the new foreman's fault. It wasn't the fault of the men who walked off the job. It was *our* fault as superintendents, as managers, and personnel men who are supposed to counsel and advise on those things. We didn't understand that the requirements of supervision are changing. I think that every one of you men in this room know more about this changing role than I do because you live it; you are a part of it. You can seen it happen time and time again when the best workman in the department with a long record of service is promoted to a supervisory position and then, all of a sudden, things begin to fall apart.

I think we lose sight of the fact that the role of supervision in our present day economy is a very complex role. It's a tough role. Presidents of companies can come and go, and in the vast majority of cases, you don't miss them. But what happens to you when this work horse level in your plant—the supervisory level—starts to become disinterested and want to work some place else? When that happens, I say a company is in a lot more serious trouble than if a president decides to leave. Supervisors are the businessmen; they are at the pressure point. They are the managers of their own little business. They are forever getting pressure from the top side, from the people who execute the policies, who establish the practices, who look after the over-all functioning of the corporation. They are on the receiving end of intructions, suggeston, orders. They are the employees who have to do something.

Each decision we make as a supervisor today becomes an experience that we can call on to make a decision tomorrow which because of that experience may be different. So we in supervision, in our industrial plant, are at the pressure point. Therefore, what kind of people do we need, must we build, must we ourselves become if our enterprise is going to be a successful, highly productive enterprise?

When I talk about an enterprise, I mean my own department is a profit center. I, as a first line supervisor, perhaps in charge of a rather small segment of a department, have a profit center. If I don't utilize the factors that must be utilized properly in that department, then my operation is not going to be effective, therefore it is not going to be profitable. So each of us in our present role of supervision is a business man, a manager, responsible for the profitable utilization of the factors under our control.

What is the capacity of the man who is the supervisor to utilize effectively the factors under his supervision? What is his capacity to work well with other supervisors so that there can be a closely knit, cohesive, interdepartmental group? What is his capacity to reduce waste to a minimum? What is his capacity to produce a product that is good quality but not quality at a level that is sacrificing quantity production? What is his ability to run his department safely? Our role includes a capacity to get people to be interested in their work so that they will work effectively.

We are not a social institution in industry. We don't make people happy just for the sake of being happy. If we did, we would get into some recreational organization. I think sometimes in personnel work we lose sight of the end result that we're after. We create programs; we feel we must do this because it makes people feel good; we must do this because it's good human relations; we must do this because we want our people satisfied and happy.

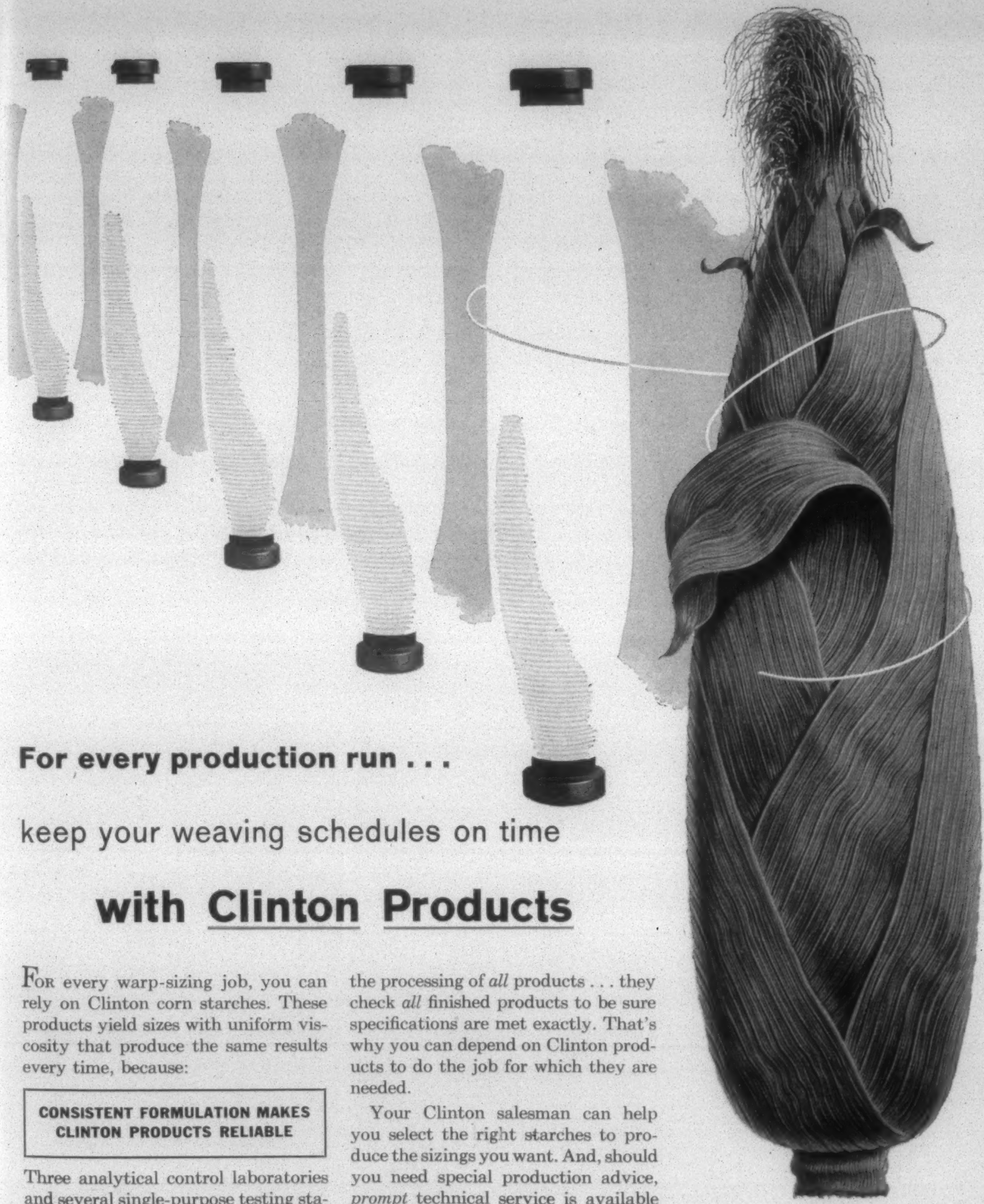
Frankly, I say nuts to all of that, unless each of those activities can be shown to contribute something to an over-all improvement in the effectiveness of the operation. That's what we're paid for. I don't think there's a man in this room who feels that he's paid for anything else,

Election of Officers

H. W. Buchanan

In an election of officers at the Fall meeting of the S.T.A.'s Northern North Carolina-Virginia Division, W. H. Buchanan of Erlanger Mills, Lexington, N. C., was re-elected chairman of the division for the coming year. Also re-elected for one-year terms were Marion Kirby of Wennonah Cotton Mills Co., Lexington, vice-chairman; Howard Barton, Fieldcrest Mills, Spray, N. C., secretary; and Charles H. Ward, Highland Cotton Mills, High Point, N. C., assistant secretary.

Re-elected to the division's executive committee were Miles A. Carpenter, Erwin Mills, Cooleemee, N. C.; and Ralph Going, Fieldcrest Mills, Draper, N. C. The division also voted to increase its executive committee by two memberships, naming A. L. Joslin of Dan River Mills, Danville, Va., and P. D. Merritt of Dacotah Cotton Mills, Lexington, N. C., to the added posts. The next meeting of the division will be held in the Spring of 1959.



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except to help in his way to make his company a more productive, more successful, more effective company. That, gentlemen, is in my opinion, your role of supervisor in today's industrial economy, a far cry from what it was 150 years ago. But nevertheless that is our role as I see it, and our kind of economy that we have today is more likely to live if each of you will accept the philosophy of that role and do our best in our own way to make our own department, our own section, our own plant, our own company a highly productive unit.

N. C. State's New Radiological Laboratory

THE North Carolina State College School of Textiles early this month announced the establishment of a $96,000 radiological laboratory at its research center. William A. Newell, director of the center, reported that the Atomic Energy Commission will support research at the laboratory over a three-year period. The total project is expected to cost approximately $275,000 with the A.E.C. supplying 80% of the funds. The college has begun negotiations with four major textile firms for the remaining 20% of the cost.

The laboratory will be used for teaching and research in industrial radiation, specializing in fibers and textile manufacturing. Scientists will study what happens to fibers exposed to nuclear radiation. Scheduled for delivery at the time of the announcement was a shipment of highly radioactive cobalt-60, supplied by Atomic Energy of Canada, Ltd. Valued at $24,000, the shipment will produce 85 quadrillion gamma rays per second. It will be the only gamma source at State College.

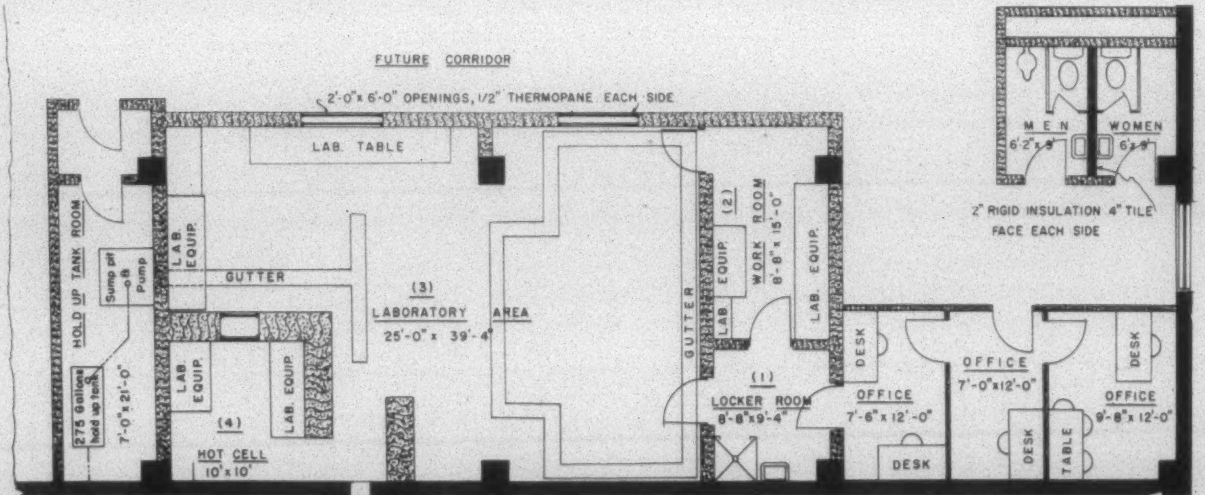
The A.E.C.'s interest in the project, according to Mr. Newell, is to find industrial use for radioactive materials created by the giant nuclear reactors being constructed in this country to provide electric power. He compared these radioactive substances to ashes and clinkers taken from a furnace. They must be disposed of and the A.E.C. is seeking ways to put them to industrial use.

The proposed study will cover four areas of potential applications at State College: (1) modification of fiber properties by irradiation; (2) modification of fiber and fabric properties by polymerization of finish monomers by radiation; (3) use of beta gages for measurement and control of textile processes; and (4) use of radioisotopes as tracers and empolyment of activation-analysis techniques in textile processing.

As an example of how such studies can be of help to textile mills, Mr. Newell explained that at present resin is applied to fabric by the use of heat and acid to produce a wash-and-wear finish. This method degrades the fabric somewhat. If the resin could be applied through use of radioactive materials, this degradation would be eliminated.

He explained that by exposing fibers to nuclear radiation, unusual transformation in molecular structure can be brought about. Some physical properties can be altered to improve an end product, and studies can be made involving measurements or tracing on a production basis. These techniques can be useful in studying blending efficiency, amount of uniformity of wet pick-up, studies of wear or corrosion, identification of products, and in abbreviating many lengthy analytical techniques.

In speaking of the laboratory, Mr. Newell described it as the largest and best equipped facility of its type in the textile industry. "The textile and allied industries," he said, "now have at their disposal one of the finest radiological laboratories in the world — designed and staffed exclusively for exploration of the potential benefits of applications of nuclear radiation and radioactive isotopes to textile materials and processes. It is an extremely powerful research tool."



A floor plan of N. C. State College's new radiological laboratory shows the new facility's offices, decontamination room, counting room, waste-disposal area and large research laboratory. The research lab is divided into an applications area into which full-size equipment can be brought for use in projects; an area in which isotopes can be handled under optimum safety conditions; and a high-level radiation laboratory which houses a self-contained multi-kilocurie gamma source. Total floor space is 1,825 square feet.

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Excessive Drying and Fiber Damage

By JAMES N. GRANT
and
CHARLES M. MERKEL

THE poor spinnability of certain American cottons has been attributed to the excessive drying of seed cotton at the gins. Research investigations at the Southern Regional Research Laboratory in co-operation with the U. S. Ginning Research Laboratory, Stoneville, Miss., have been directed towards finding what changes were produced by excessive drying that might cause spinning troubles. These investigations have focused attention on the decrease in mean fiber length and the increase in quantity of short fibers which can occur during cleaning and ginning after excessive drying. Such changes in the fiber length distribution have been shown to decrease both the strength and the uniformity of yarns.

Several conditions which could increase the quantity of short fibers are bacterial damage, drouthy field conditions, or improper machine settings, as well as the excessive drying of seed cotton before ginning and cleaning. However, the complaints from the textile mills have attributed their difficulties to the damage caused by drying, even though the existance of other conditions could not always be disproved.

Studies of undried, moderately dried and excessively gin dried cottons (365° F.) of average characteristics have shown that excessive drying prior to ginning and cleaning can decrease mean fiber length as much as 5% and, at the same time, can increase the quantity of fibers less than ½-inch long by 8 to 10%. Also, it has been reported that the classer's staple length may be decreased as much as $\frac{1}{16}$-inch by certain conditions of drying and ginning. Moderately dried cotton, which has 5 to 7% moisture, has been ginned without appreciable damage to the properties of the fibers.

Ginning Dry Cotton Affects Length

In studies of excessively dried cottons, attempts were made to distinguish between the effects of drying alone and those from the mechanical working of fibers while they were warm and dry or when their moisture contents were very low.

(In general, when moisture has been removed until the amount remaining is below 2 to 3% of the weight, this cotton is considered to have been excessively dried. In a current of rapidly moving air at a temperature of 360° F. or above, most of the moisture is driven from cotton fibers in 10 to 20 seconds; at longer times chemical degradation of the cellulose begins to occur.)

Heating cotton at 356° F. for 15 seconds (to a moisture content below 1%) without mechanical agitation caused no permanent changes in fiber length. The dry fibers appeared to be shortened because of their tendency to kink. When they returned to a normal moisture content, however, the apparent decrease in length no longer existed. By contrast, a permanent decrease in average length of fiber was found when cottons were excessively dried and mechanical working of the fibers by ginning or picking and carding occurred while the fibers were still warm and dry.

Accompanying the decrease in length was an increase in the percentage of short fibers. The increase in the quantity of short fibers indicated that breakage rather than shrinkage in length took place when the dry cotton was worked mechanically. As further evidence, it was found that very dry fibers cleaned with the Shirley Analyzer decreased in length more than those of normal moisture content.

Short Fibers From Breakage Lower Yarn Qualities

Yarns spun from cotton whose fiber lengths were decreased by breakage produced by excessive drying before ginning and cleaning were weaker, less uniform and less resistant to flex-abrasion than yarns spun from a portion of the same lot of cotton not dried before ginning and which had a normal fiber length distribution. Fiber length is known to affect the strength of yarns, but reductions in yarn uniformity and abrasion resistance are not usually associated with slightly shorter staple length so long as the distribution is normal. The decrease in yarn uniformity in the excessively dried cotton is attributed to the effects of short fibers on the drafting and spinning, the decrease in yarn strength to the nonuniformity of the yarn and to the reduction in fiber length.

Additional evidence that short fibers were lowering yarn quality was furnished by blending short fibers with undried

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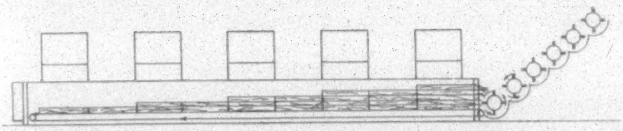

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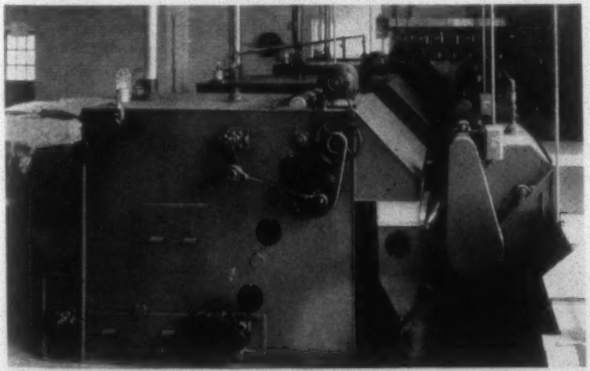

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cotton in sufficient quantity to produce a length distribution comparable to that of a cotton excessively heated at the gin. In yarns and fabrics made with fillings from these yarns, the reductions in strength, uniformity and abrasion resistance were similar in the undried blend and the excessively dried cotton.

Hot Dry Fibers Are Weaker

The reasonable explanation for more breakage in excessively dried than in undried cottons is found in the differences in strength and elongation between the moist and dry cottons. The characteristic of cotton to decrease in strength with removal of moisture is well known.

In recent studies the strength of single cotton fibers heated at 320° F. for 15 seconds and tested before the fiber had cooled was 20% less than that of the unheated fibers, whereas the strength of fibers which were heated but allowed to recover their moisture before testing was not reduced. In many types of cleaning and processing machinery, the stresses on a small proportion of fibers in separating them from others are greater than their strengths. When the average fiber strength is temporarily reduced, the number of fibers which will break obviously will be increased.

The general practice at the gin is for ginning and cleaning to be completed while the fibers are still warm and dry. Since both heat and lack of moisture decrease strength, somewhat more breakage is inevitable on warm, dry cotton. After sufficient moisture has been absorbed, the strength of moderately dried cottons is equivalent to the strength before drying. If the heating has been sufficient to cause chemical degradation, the strength losses will depend upon the extent of degradation. This loss in strength is not recoverable. In cottons excessively dried at the gin and allowed to regain a normal moisture content, the permanent losses in strength are small—usually between 1 and 5%.

Changes In Elongation

The elongation of cotton of normal moisture content before drying is usually not permanently affected by moderate drying or even by excessive drying unless sufficient for degradation, to cause a permanent loss in strength. The elongation of fibers which were quite moist (lint moisture content, 15%) before drying prior to ginning was decerased permanently (probably wet stretched) even though no strength loss was detected. A temporary reduction in elongation always accompanies the temporary strength loss caused by removal of moisture. Thus dry fibers are more easily broken not only because of lowered strength but also because of less stretchability; they can be considered to be made temporarily brittle by drying.

Processing Dry Cotton

The textile mill may sometimes process cotton while the moisture content is too low, thus increasing the amount of fiber breakage, if bales of very dry cotton are received. Although cotton is extremely hygroscopic and will reach a suitable moisture content in a reasonably short time if sufficient water vapor can reach the fibers, this can be prevented by at least two conditions. First, the tight pack-

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ing of lint in a bale means that fibers inside the bale are practically inaccessible to atmospheric moisture. Air circulation through the bale is negligible, which means that moisture must travel through it by diffusion through the lint, a very slow process. Fibers from the interior of bales of excessively dried cottons have less moisture than those from undried or moderately dried cottons. Even after several months of storage, the moisture in fibers from the interior of excessively dried bales represents only 4 to 5% of their weight.

A second mill condition that can lead to lint being processed at too low a moisture content is that if a number of very dry bales are being opened, the water vapor in the mill atmosphere in the vicinity of the bales will be insufficient to bring the lint to a high enough moisture level, unless large quantities of water vapor are available.

To illustrate by an extreme case, a 500-pound bale coming in at 3% moisture regain (not impossible if the seed cotton was excessively dried and the lint was baled without addition of moisture) would require 20 pounds of water vapor to bring it to 7% regain. At 75° F. it would take 15,000 cubic feet of air saturated with water vapor to supply this, or 30,000 cubic feet to give the necessary moisture and still maintain a relative humidity of 50%.

In mills with poor air circulation, the air surrounding the textile machinery can be desiccated by the dry cotton. In an actual experiment, it was demonstrated that moisture absorption during carding is relatively slow. Dry cotton which entered the card at 3.5% moisture had increased to only 4.5% upon removal as card sliver in a room controlled at 58% relative humidity.

Effects On Chemical Properties

Chemical tests on undried cotton lint and on that dried excessively at the gins gave identical results within the precision of the test methods. In dyeing tests with a blue direct cotton dye and with a red-green differential dye bath, no appreciable difference could be seen between normal cotton undried and that which had been dried. The lint from seed cotton which had been moistened before drying dyed slightly differently (lighter with the blue dye and redder with the differential test). The effects on dyeing are much less than those produced by difference in wall thickness on growth conditions.

Conclusion

Certain qualifications in the conclusions from results of these investigations must be made because of the limited number of cottons, moisture conditions and geographical areas studied. In the cottons studied, sufficient changes in fiber properties were found in the excessively dried lots to affect their processing qualities. The permanent changes in mean length and in quantity of short fibers seem to be responsible for the major effects on product qualities. These fiber length changes are attributed to breakage resulting from mechanical working of fibers temporarily weakened because of low moisture content. Only slight changes in chemical properties could be detected in excessively dried cotton, and none in moderately dried lint.

A technical paper presenting the detailed results and discussion of this study on the effects of drying is being prepared for publication from the Southern Utilization Research and Development Division, New Orleans, La.

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The Plastic Shuttle

How Good Is It?

By **GUS GUGGENHEIM**, Associate Editor

TIME and again at recent meetings of overseers and superintendents in the Carolinas, Georgia and Alabama the question of the value of plastic shuttles in relation to the conventional dogwood shuttle has come up. There seems to always be a great deal of interest and a good discussion. Unfortunately, however, many questions about the performance of the plastic shuttle, and the dogwood shuttle, too, are always left dangling. This is not good.

The plastic or plastic laminate shuttle has been in general availability for a number of years. The first installation that this writer saw was in 1951 in a Columbus, Ga., weave room equipped with 42-inch Draper E model looms running 160 picks per minute. The shuttles were given thorough testing and proved by every measure of performance to be far and away superior to dogwood shuttles.

The second test installation of the shuttles which this writer has knowledge of was in an Alabama mill equipped with 54-inch Draper X series looms. The shuttles proved superior and were installed on the whole job. In fact, in every instance where adequate steps are taken to insure proper loom setting and maintenance, plastic shuttles have proved themselves more economical in the long run than their wooden counterparts.

Picker Life

The question, "Do plastic shuttles cause more wear on pickers?" is often raised. The plastic shuttle is made of a resin impregnated fabric material which is much more dense than wood. It is also stronger and resists greases, oils and shock much better than wood. Quite obviously a shuttle of approximately the same dimension made of this material must be heavier than a wooden shuttle.

Changing the shuttle in a loom does not affect the starting speed, materially, of the shuttle at the beginning of a pick. (There may be a slightly smaller starting speed with the heavier shuttle since the picker stick would tend to bend a little more under the strain.) As a shuttle of either material travels through the shed it slows down due to friction and loss of momentum. Since the heavier shuttle has more momentum at the beginning of the pick it must, therefore, have more momentum at the time it homes in the opposite box. This is true as long as no other force acts on it to slow it more than normally found with a wooden shuttle.

This article attempts to show the relative merit of plastic shuttles from a wide assortment of published test results dating back several years and from reports from shuttle manufacturers. It is pointed out that one mill decreased its yearly shuttle use to 275 from 1,360 with the installation of plastic shutttles. Some of the reasons why certain mills have had poor experience with plastic shuttles are analyzed and correct installation methods are reviewed and explained.

Greatest picker and leather wear is caused by the shuttle slamming into the box, even if properly checked, and stopping against the picker. Obviously then, a heavy shuttle picked with the same amount of power as a light one will wear pickers more. In this case the plastic shuttle will wear pickers more rapidly than dogwood.

Requires Less Power

A correctly installed plastic, or heavy shuttle, will be picked with less power. This lower initial speed results in lower momentum when the shuttle enters the opposite box and comes to rest against the picker. This means less picker wear. Other affects are less noticeable wear on box binders and front box plate leathers and related parts. There is no reason for increased wear on picker sticks or pick cam toes either because less power is needed to start the heavy shuttle at a speed that will leave it with approximately the same momentum at the end of the pick.

The question resolves itself into the fact that the plastic shuttle is better, however, it must be properly employed to get the benefits of its great strength and durability. This is true in many, many instances. If a Cadillac were hitched to a plow or hay rake it would not perform the job as well as a tractor. A supersonic jet airliner could not make the run from Charlotte to Atlanta with stops in Greenville and Anderson, S. C., as efficiently and as quickly as a twin engine propellor driven aircraft. These pieces of improved equipment must be properly used if their full benefits are realized.

Mills Report

There should not be any doubt about the value of the plastic shuttle in view of the great volumes of information available from publication of proceedings of various textile groups. In 1955 this journal carried a report of a meeting in which plastic shuttles were said to be operating 7,500 hours. Later a Georgia mill reported that its plastic shuttles

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were running an average of 5,000 hours compared to 1,000 for dogwood. The same mill said that the cost per 1,000 loom hours for plastic shuttles was $1.39 as against $2.16 for dogwood.

This Georgia mill found that they had excessive wear on box binders when plastic shuttles were first installed. They realized that a better alignment was necessary and that they had to take power off the looms with the heavier shuttle. This action brought binder wear back to normal. The mill could find no difference in the length of life of its picker sticks. They said, however, "picker life seems to be shorter, but we do not have any definite figures on this," on the other hand they added that pick cam toes "seem to last longer."

"We have found that plastic or molded shuttle life is two to one greater than the regular dogwood shuttle," reported another mill. A mill with Draper E model looms said that it had had test plastic shuttles in operation for over five years and could see no noticeable difference in the life of binders, box fronts, pickers, picker sticks, and pick cam toes. This mill reported its wooden shuttles had a life of 4,900 hours so obviously it is getting an extremely high class job of loomfixing done.

A mill reporting a small scale test of 25 shuttles increased average shuttle life by some 73 per cent and eight per cent of the shuttles were running after 6,000 loom hours. But this mill found that binders, box fronts and pickers did wear faster although no difference was seen in the life of picker sticks and pick cam toes. The results of this test indicate that the necessary prerequisite steps were not taken before installation of the heavy shuttle.

One of the most startling reports on life of plastic shuttles was given by an Alabama mill which is well known for its superior loomfixing. This mill operating Draper X series looms says its plastic shuttles have been running for an almost incredible 9,000 hours and the total is going up every day. They say that they have no more wear on any parts and less wear on many others. They point out very carefully that picker and leather wear will increase beyond normal if power is not taken off the looms. The decreased power requirement also helps in the control of broken picks and mispicks.

Shuttle Maintenance

DRAPER CORP. gives the following recommendations for the proper care and maintenance of its shuttles.

(1) Shuttles cannot be checked too frequently for loose hardware. A loose spring or eye, run for even a short time, can severely damage a shuttle. Use caution in tightening eye and spring bolts so as not to split shuttle or strip threads.

(2) Smooth shuttle with fine sandpaper, apply a good shuttle dressing and polish briskly.

(3) Check shuttle fur, bristles and thread groove.

(4) See that bobbins are held straight in the shuttle. If work is required on the spring, *remove spring from shuttle first.* Never hammer on the shuttle spring leaves while the spring is assembled in the shuttle. Use shuttle wrench only for bending spring.

(5) Check to make sure that shuttle screws or nuts are not cutting reeds.

(6) Check back wall of shuttle. Keep back wall and bottom of shuttle square. If worn, correct the condition or replace the shuttle and square the reed using a reed square.

(7) Keep shuttle feeler and thread cutter slots smooth.

(8) Have tension pads centrally located for even tension on yarns.

This same Alabama mill says that its box looms are now equipped with plastic shuttles and have been running for four months. The mill is quite happy with this since previously the life of dogwood shuttles had been measured in days. The four-month-old shuttles were said to still look like new.

Some Cons

A mill reporting that while it was pleased with the plastic shuttle's life, an undesirable feature is that quill clip screws pull out. Another mill said that only four of an original 150 plastic shuttles running in 60-inch X-2 and X-P looms at 163 and 155 picks per minute, respectively, have been replaced after 5,000 hours. The mill added that these four had been thrown out and broken when new warps were pulled over. The shuttles are said to still be in good condition but some cracking near the eye is noticeable. Also the quill clip screws loosened and there was some cracking at that position.

A mill reporting 7,560 hours of operation from plastic shuttles in 46-inch Draper X-2 looms running 182 picks per minute says that "the spring wears so much from filling changes that the quill becomes loose . . ." They report some, but not excessive, wear on pickers and box plates. The same mill's 64-inch XP and XP dobbies, running at 145 picks per minute average 4,000 and 6,000 hours running life. Their 60-inch X-2 looms running 160 picks per minute are getting 4,733 hours per plastic shuttle. Other looms on dogwood shuttles run anywhere from 1,900 to 2,280 hours per shuttle.

A picker consumption increase of 41 per cent was reported by a mill running X-2 looms at 180-190 picks per minute. Paradoxically, the mill could tell no difference in in wear of binders and box plates. A relatively short, for a plastic shuttle, life of 3,758 hours was reported for these looms. This shortened life would be expected if the looms did not have enough power taken off when the shuttles were first installed. The tremendous momentum generated by overpowered plastic shuttles could deliver enough punishment to the pickers to increase wear by that percentage. The reason for the failure to increase binder wear is not clear unless the boxes are set quite open and the picker is taking a much greater than normal share of the checking load.

Evidence Piles Up

The December 1956 issue of this journal carried a report from the Georgia Textile Operating Executives in which one mill was quoted as saying the plastic shuttle was "considerably more expensive" than dogwood but "we believe it will be more economical in the long run in view of increased running life and *decrease* in fixing and upkeep required." Several mills reported that plastic shuttle life was double that of dogwood. One mill said it was three times the life of dogwood, another said three to four times he life, and another said flatly that plastic shuttles had four times the life of dogwood.

Shuttle Construction

We rather loosely termed the new shuttle throughout this article as a plastic shuttle. These shuttles are actually made of a laminated twill fabric impregnated with phenolic resin. They are grainless and have great multi-directional strength. Use of the shuttle tends to polish its surfaces and actually makes it smoother. The dense material has constant physical properties in the face of various conditions of humidity and temperature.

The Draper Corp. says that its Tru-Mold shuttles are the only ones in which the tips are molded as an integral part of the product. This is reported to eliminate the chance of shuttle tips becoming loose. The company has records of a group of Tru-Mold shuttles having an average operating life of 6,000 hours.

The Southern Shuttle Division of Steel Heddle Co. says that in its Duramold shuttle the extension of the side wall laminates all the way to the tip which greatly increases the strength of this section. Macerated end blocks are molded into the shuttle to provide flexibility for absorbing shock at these points.

All plastic shuttles are made of basically four pieces (not including the hardware), the two side walls and the two end blocks. The side walls are fabric reinforced laminates which are tough and wear resistant. These laminates are, however, somewhat brittle and are not suited for the pounding taken by the ends of a shuttle. The ends are made of more resilient, macerated or chopped fabric reinforcements.

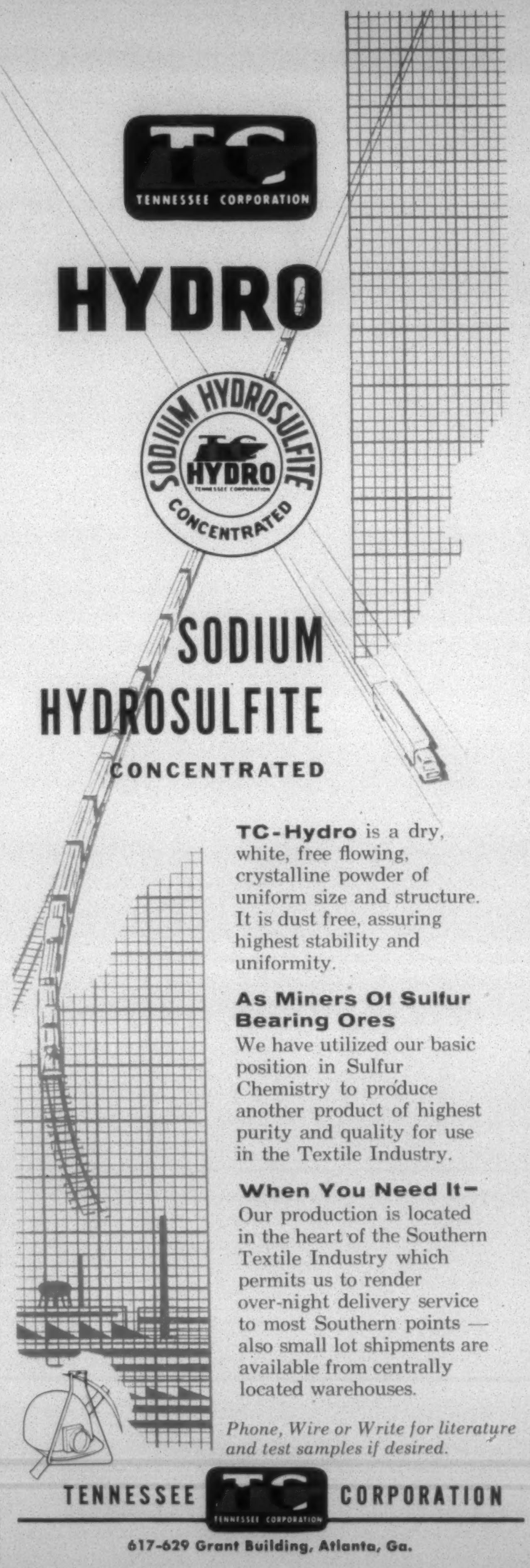
Terminology Clarified

To clear up any confusion on terminology in describing plastic shuttles it should be noted that Southern Shuttle makes two types. The Duraweld shuttle is made of laminated fabric sides and dogwood end blocks. The Southern Duramold shuttle is all molded plastic. The company makes many styles and sizes of shuttles in these two types.

Draper Corp. has three basic types of plastic shuttles. The Tru-Flite is fiber clad on either one or two sides and the bottom. The Tru-Form shuttle has formica sides and wooden end blocks. The Tru-Mold shuttle is made entirely of the plastic material.

The Southern Shuttle Division reports that it has removed a Duramold shuttle for display purposes from a 46-inch XD loom running 182 picks per minute making poplins and leno velveteen of 40s and 50s yarn. The shuttle had run for 15,396 hours and was still in good condition. This mill has all of its 1,100 XD looms and some C-6's equipped with Duramold shuttles and the average life is 14,000 hours. On the section of 210 looms from which the display shuttle was removed the average shuttle life is just under 17,000 hours.

The company also reports on another mill which has 659 44-inch X-2 looms running at 178 picks per minute on drills, sateens, jeans and poplins. The mill used 1,360 dogwood shuttles in 1954 and 1,344 in 1955. In 1956 the dogwood shuttles were replaced with Duraweld shuttles. In 1957 the mill used 275 shuttles. In the first three months of 1958 the mill used only 60 shuttles.



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Some Facts You Should Know In Choosing

A Warp Tying Machine

By WILMER WESTBROOK

There are three types of warp tying machines available — the stationary, the wide portable and the small portable. No one type of machine is best for all warps and under all conditions. This article presents some of the things that must be considered in deciding which type of tying machine is best suited to individual needs.

SOONER or later every weaving mill is faced with a decision on buying a new warp tying machine. Since one of these machines represents a sizeable investment and its operation has a lot to do with loom efficiency, the mill naturally wants the best machine obtainable for its particular kind of warps.

Too often a choice of machines is based on initial cost and speed rather than on the machine's adaptability to local conditions. Each of the currently available tying machines—the wide portable, the narrow portable and the stationary machine—will tie any warp, but each machine has a range of warps that it handles best under certain conditions.

The measure of a tying machine's worth is not in the number of knots that it will tie in a minute but in the loom downtime at warp-out. Actual tying time for an average warp is five to 15 minutes but it takes from 15 to 60 minutes to prepare the warp for tying and to pull the knots through the drop wires, harnesses and reed.

Keep Machine Producing

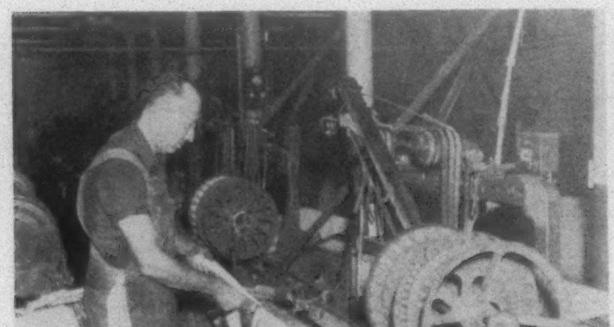
The aim should be to cut the preparation and start-up time to a minimum and keep the tying machine in actual production as much as possible. A strictly comparative analysis of the various tying machines is hard to make. Each mill has its own set of conditions and what is best for one mill may not be best for another, although they both weave the same type of cloth on the same kind of looms.

The factors that should be considered when choosing a tying machine include but are not limited to: (1) type of fabric; (2) kind of yarn; (3) yarn number; (4) ends per warp; (5) running time of warp; (6) number of harnesses; (7) banks of drop wires; (8) lay-out of looms; and (9) location of the drawing-in room.

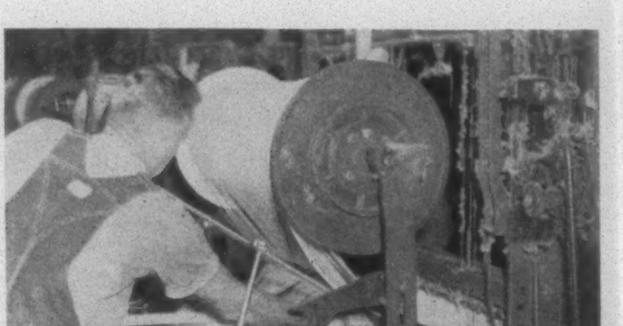
Stationary Machine Advantages

The stationary tying machine is the oldest type. It is usually located in a separate room, away from the high humidity of the weave room. The harnesses, reed and drop wires, linked by a short section of warp yarn, are removed from the loom at warp-out and taken to the tying machine where the ends of the pattern are tied to those of a full warp yarn beam.

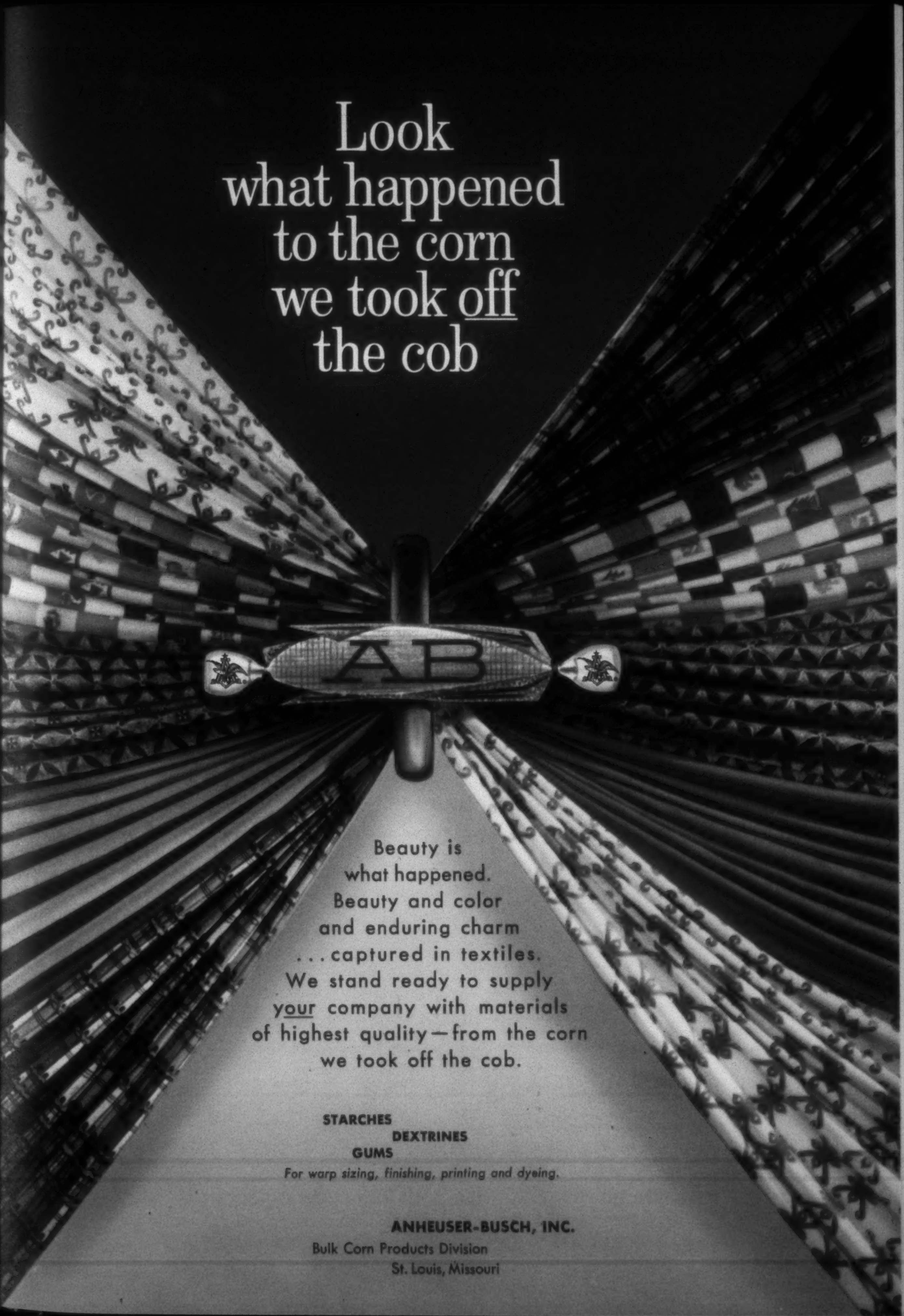
One of the advantages claimed for the stationary machine is tying is done under more favorable conditions away from the looms. Another advantage cited is that the loom can be more easily cleaned, adjusted and lubricated with the pattern removed. Further advantages are that harnesses, reed and drop wires can be cleaned, inspected and repaired while out of the loom; stationary machines can tie warps ahead of time in anticipation of needs and have less non-productive time; the frames of stationary machines are heavier and more rigid, and the knotters need less care and fewer adjustments; and no productive time is lost moving the machine or waiting for a warp to run out.



On simple weaves and where the machinery lay-out is such that it is hard to place a portable machine at the loom, it is best to use a stationary tying machine.



Portable tying machines are best on looms that have complicated patterns and a large number of harnesses.



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Advantages claimed for portable tying machines include: (1) warp tying is included as a regular part of weave room operation and is under weave room supervision; (2) it is not necessary to remove the harnesses, reed and drop wires from the loom at warp-out; (3) time is saved because the harness straps do not have to be connected and adjusted for each warp; (4) shuttle life is increased and seconds are reduced because the same reed is used for each warp; (5) labor is saved because the patterns do not have to be removed, replaced or transported to and from the drawing-in room; and (6) patterns are not damaged in storage or in transit.

Each of the two types of portable tying machines also has its own advantages and limitations. The narrow portable machine is easily maneuvered in narrow aisles, around corners, pipes and obstructions. Its shorter knotter track is more rigid than that of the wide machines and it can be loaded and operated by one person.

Extra Carriages

The wide portable machine is capable of tying all the threads of a warp in one "bite," once the warp has been loaded. Extra carriages can be used to lease warps ahead of the knotter so that it will not be idle while the yarn is being loaded in the frame. The knots are all tied in a straight line, which makes pull-through easier and reduces waste.

All three types of tying machines are capable of speeds up to 325 knots per minute. But for an accurate appraisal of performance the number of knots that are tied per hour under average operating conditions gives a truer picture.

Actual production may vary widely because of local conditions but the average knots per hour for the three types of machines are: (1) small portable—4,000 to 6,000; (2) wide portable—8,000 to 12,000; (3) stationary machine—10,000 to 13,000. As mentioned before, the actual number of knots that are tied within a given time is not as important as the downtime or loss of production of the loom at warp-out. A machine that ties 6,000 knots per hour and holds downtime for a warp-out to 30 minutes is more efficient than a machine that ties 12,000 knots per hour and requires an hour or more to get the loom back into production.

Interchangeable Machines

Since all three types of machines can be used interchangeably to tie all kinds of warps it remains for the mill to decide which type is best for its use. For almost any installation there will not be a machine that is best in every way, so the advantages of each machine must be weighed against its disadvantages in order to reach a compromise.

For some mills there is little choice. One mill may have a machinery layout that makes portable machines impractical. Another mill may have patterns that are so big and heavy that a portable machine is a necessity. For many mills the choice is not easy and should not be made in haste. For best results, a test should be made under actual operating conditions in the mill. All factors, both present and long-term, should be considered because much of the loom efficiency and the quality of the cloth will depend on the speed and accuracy of the warp tying machine.

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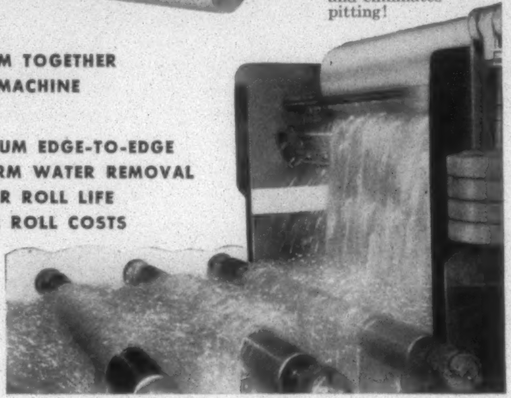

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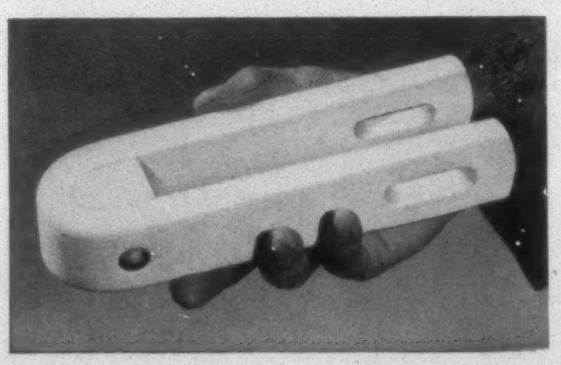

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Water . . . lifeblood of the dyehouse

. . . it may look good; but is it?

By **W. C. DODSON, Consulting Editor**

WHEN you are hot and thirsty, what is more refreshing than a brimming glass of cold sparkling water? But suppose the glass happens to be brimming with sea water. It may be cold and sparkling but it's no good as a drink.

So it is with water for textile purposes. It may look absolutely perfect and there may be plenty of it, but with all this it may be just about as unsuitable for the dyehouse and bleachery as sea water is for human consumption. Its apparent suitability and the fact that you have always used it may indicate that it is all right. It may also indicate that you have been having to use too much coal, soap and dyestuff. Also it may mean that your re-dyes, kier stains, etc., are higher than they would be had you regularly tested and protected this vital commodity.

Good water and plently of it is an absolute and positive necessity if textiles are to be perfectly and economically dyed, bleached or wet finished in any manner. There have been numerous articles on the subject in the various trade journals, and discussions of it at dyers' and chemists' meetings, but even with all this, water is still too often considered an incidental. Manufacturers too seldom have regular tests made of their supply—seldom give their filters or softeners a thought until serious trouble calls attention to how necessary *good* water is.

Now here's another thing. Just because water is in good condition this week is positively no proof that it will be good next week. Hard to believe this? Well, it shouldn't be, because water can be naturally very variable in quality as well as quantity.

Case History

The costly casualness with which water is often considered is well illustrated by the two following cases, both of which actually occurred, to my personal knowledge.

A big bleachery was planned, built, partially equipped and turned over to a receiver in bankruptcy, all in rapid sequence. It came about in this way: The locality was known to be lacking in surface water but artesian water was easily reached in vast quantities by the local farmers, so artesian water was planned for use by the bleachery.

The building was finished and the machinery began to arrive before the drillers struck water. They had to go unusually deep and the drilling had been expensive but at last a supply was tapped and in most ample quantities. Ample in quantity, but far from ample in quality. It was too heavily charged with salt and alkali for textile purposes. And so great was the contamination that all efforts to use it were abandoned. The lifeblood of a bleachery was tainted beyond cure and the curtain fell on one of the most complete failures imaginable.

Again, a textile processing plant was planned, this time a mercerizing plant. Surveys were made and blueprints prepared by experienced architects and all necessary financial arrangements made before I asked about the water supply. The source of supply was a creek that had always flowed, Summer and Winter. But the rate of flow had never been measured. Water flowed, and that was sufficient evidence, apparently, on which to invest something like $1,000,000.

However, in this case, the inquiry into the water situation went forward in time to save a serious monetary loss. The dream of a big plant went up in smoke when it was found that instead of the minimum requirement of a half-million gallons per day being available, there was a quantity nearer 100,000 gallons. Incidentally, I lost the order for most of the machinery involved, including the filtering and softening units. The locale of this sad story was near High Point, N. C.

Sources Of Water

Now here are two cases, one in which there was plenty of water but it was incurably contaminated. The other was a case in which there was good water but not enough of it. Easy enough to see after these experiences are set forth but nicely illustrative of the thing I have mentioned: costly casualness in regard to water.

With the exception of a few widely separated areas there is some kind of usable water found nearly everywhere. The source may be: (1) surface water such as lakes and streams; (2) well water shallow or deep, seeping or free flowing; (3) springs; or (4) rain, snow, hail, etc., which are basic.

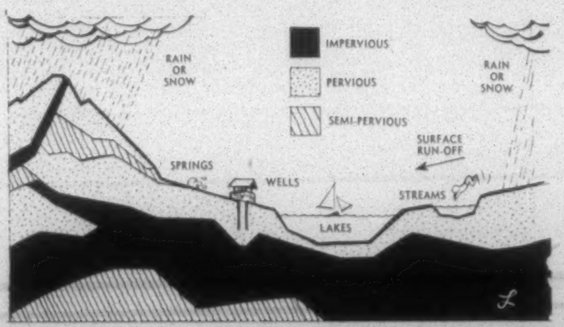

Fig. 1—Except for a few widely separated areas, there is some kind of usable water found nearly everywhere. Surface water such as lakes, streams; well water, shallow or deep, seeping or free flowing; springs; and rain, snow, hail, etc., are basic sources.

These sources are listed in the order in which they are most frequently used, except for item (4), but perhaps a good way to follow the movement would be to begin with rain, or precipitation. The sun evaporates surface waters, perhaps from miles away, and the warm vapor rises until it strikes the cold of the upper atmosphere. Here it condenses in the form of clouds. Condensation continues until the right condition is reached and precipitation sets in.

The rain, or snow, falls to earth, where some of it sinks to form the wells and springs but the majority of it goes to make the lakes and streams. This is known as run-off. Then the "sun comes out and shines so hard it dries up all the rain," and the cycle is complete. Fig. 1 illustrates the whole business in a rough way.

Now, as you know, when precipitation reaches the earth, it eventually comes in contact with the calcium, magnesium, iron and all the other elements in the earth. Some of these elements are rendered soluble by various impurities in the rain, as well as by their natural tendencies. If the earth through which the rain seeps, or across which it drains, contains calcium, magnesium, etc., then we may reasonably expect it to take on these elements in greater or less amounts.

Fortunately, the principal impurities with which the textile plants in the U. S. have to contend are mainly the soluble salts of magnesium and calcium, together with suspended matter which we may as well call mud. And the reason I use the word "fortunately" is that all of these undesirable qualities can be removed easily and cheaply by filtration, or softening, or a combination of the two processes.

Filtration

The first water filter of any consequence was contracted by an English engineer, about 1847, for a small water works system in England. The quality of the filtered water was fair, but the capacity of the filter was only about three gallons per day for each square foot of filter bed area. This method of filtration has been developed and is now known as the slow sand method of filtration. The straining action of this filter is produced mainly by a layer of impurities, derived from the water itself, resting on the sand bed and through which the water is compelled to pass. When the layer of impurities becomes impervious it is necessary to withdraw the water and scrape the surface with shovels and hoes.

About 1883 or 1884, a Mr. Hyatt of Newark, N. J., perfected a filter which gave good water and could be operated at a rate of over one gallon per square foot per minute as against the three gallons per 24 hours of the slow sand filter, and which, when it became dirty, could be washed within its case by simply reversing the current of the water. In an hour the filter was perfectly clean. This same inventor subsequently discovered that the use of alum in the filtration process greatly improved the appearance of the water so that the effluent was bright, clear and sparkling. This filter was the prototype of the mechanical filter as it is known today and by the evolution of the principles involved in this filter it is possible to construct a filter which gives perfect results when operating at the rate of five gallons per square foot per minute. The filter makes the water crystal clear, absolutely colorless, entirely free from the coagulant used in the preliminary treatment and will wash in from 30 to 35 minutes by reversing the current.

Thus, since the beginning of filtration in 1847, we have progressed from the slow sand filter which gave a rather dubious effluent when operating at the rate of three gallons per square foot per day, to the present mechanical filter which gives a perfect effluent when operating at the rate of 7,200 gallons per square foot per day. The original

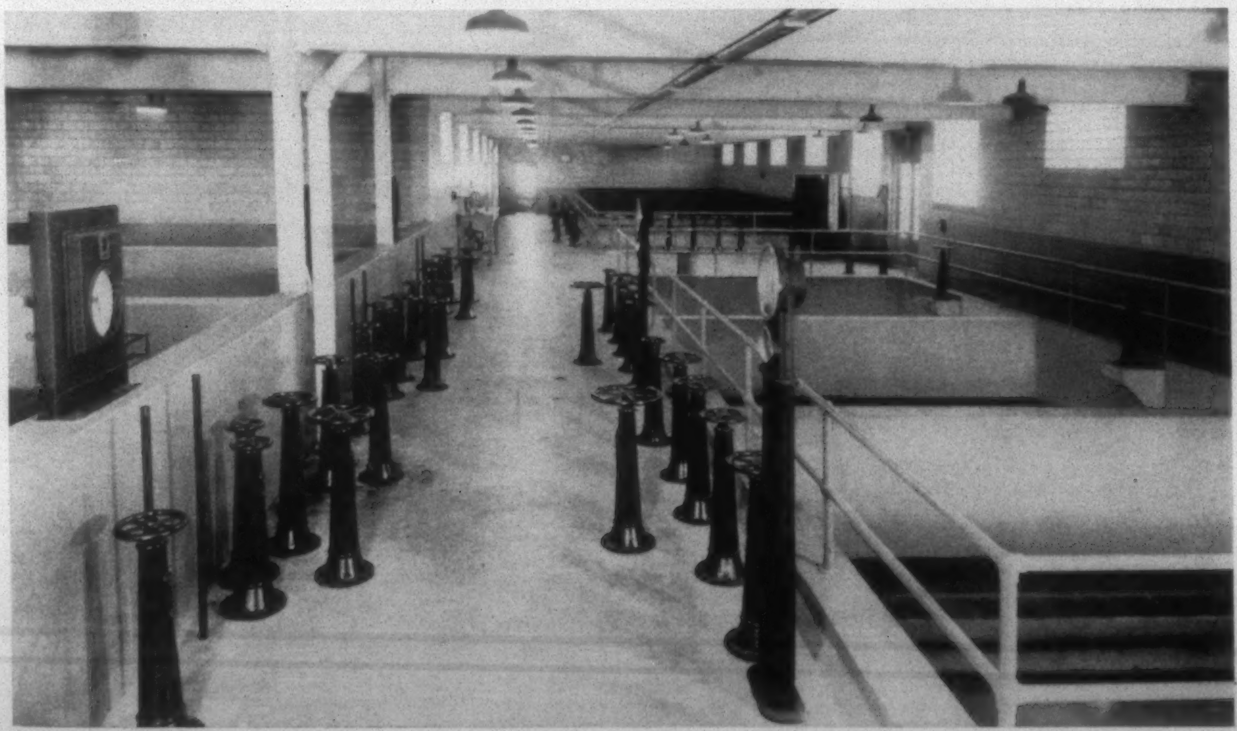

Fig. 2—This is a textile mill installation of open concrete gravity filters and inversand zeolite water softeners. *(Photo—Hungerford & Terry Inc.)*

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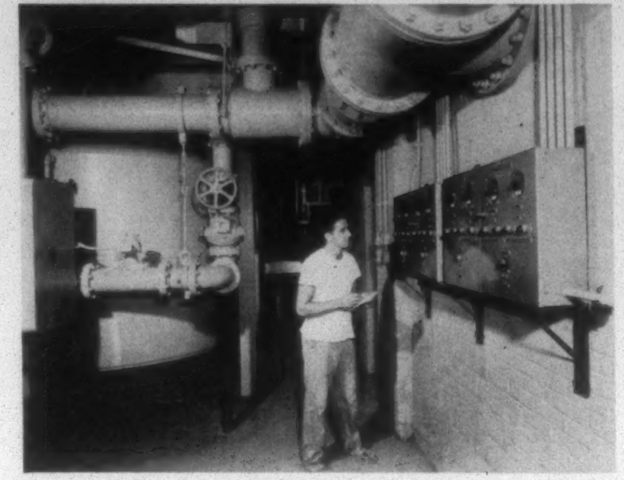

Fig. 3—Automatic inversand zeolite water softener and instrumentation. *(Photo—Hungerford & Terry Inc.)*

filter was merely a strainer, while the present apparatus is a device which removes not only the visible suspended matter but also the coloring matter, various industrial wastes, many dissolved substances and in fact almost anything that could make trouble or annoyance to the manufacturer.

It is largely due to the stringent requirements of the textile bleacher and dyer that the filter has been brought to its present high state of efficiency.

Originally filters were constructed for the purpose of purifying drinking water. However, it has been found in many instances that the standards which are adequate for drinking water are insufficient for many textile purposes, with the result that not only bacterial efficiency became a factor in the construction of filters but also the ability to handle waters contaminated with industrial wastes, color, etc., and to effect this without leaving any trace of the chemicals used in the treatment given the water before filtration.

Essentially, filtration is a very simple process. It is merely the passing of the water through a bed of sand, coke or charcoal. I have even heard of one textile plant in Australia using nothing more than a deep bed of excelsior, "wood wool," they call it.

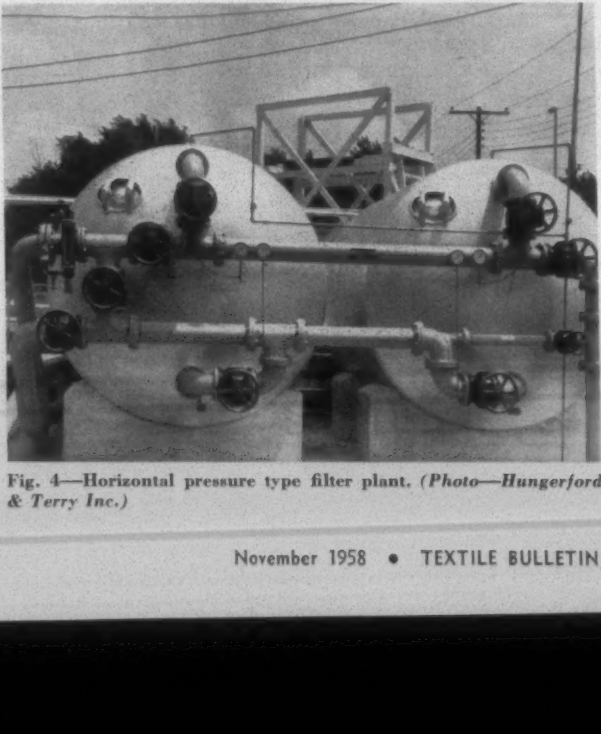

Fig. 4—Horizontal pressure type filter plant. *(Photo—Hungerford & Terry Inc.)*

Sand, Gravel And Stone

Modern filters, however, use only sand, gravel and small stones, in layers, much as the earth filters all the water that soaks into it. The container for the filter bed may be a cypress tank, a steel tank or a concrete tank. The shape and size may be almost anything to meet individual needs. The principal thing is to have a water-tight container for the sand and gravel, and means for periodic cleaning.

The accompanying illustrations show the usual industrial types of filters. Fig. 2 shows open concrete gravity filters and inversand zeolite water softeners. Automatic inversand zeolite water softener and instrumentation is shown in Fig. 3. Horizontal and vertical pressure type filters are shown in Figs. 4 and 5 respectively. A vertical pressure filter has three tanks, one filter, one softener and one salt solution tank for use in regenerating the softener.

Water is admitted to the wash rake type filter at a point slightly above the level of the uppermost layer of sand. It seeps downward until it reaches the strainer system which is actually a series of special brass fittings. These strainers are, in turn, attached to small pipes which lead to one large outlet main or manifold.

With an outfit such as this, filtration will continue until gradually the suspended matter in the water clogs up the spaces between the grains of sand in the filter. It is then necessary to remove the deposit. This process is known as backwashing and is carried out by admitting water under low pressure to the bottom of the filter bed, through the strainer system.

At the same time, the wash rake is revolved through the sand, loosening the sand and freeing it from its clinging coat of mud. This mud is carried off by the flow of the backwash water and out through an overflow or backwash outlet. The whole operation requires about 30 minutes, after which the filter is ready for "business as usual."

The pressure filters are backwashed by high pressure water entering the bottom strainer system. This pressure is sufficient to loosen the sand and the mud floods off through the backwash outlet valve. The air wash type is backwashed as explained for the wash rake type with the additional feature of compressed air being admitted through a series of perforated pipes in the bottom of the bed. The wash rake, the high pressure and the compressed air all serve the same purpose and are simply the various ways of loosening the sand bed. There are several reasons for the different types but the principal one is that varying conditions are met in different localities and different plants. I do not intend, at this time, to go into what these varying conditions are.

Water Treatment

Now that you have an idea of how and why a filter works, we will go backward a little bit and discuss the treatment of the raw or unfiltered water before it is admitted to the filter. This water can be heavily charged with mud and other finely divided material or it would not be necessary to filter it. Certainly that seems fair enough. Well, anyway, it is pumped or flows by gravity into the settling tank, which is built of wood, earth, concrete or anything that is *water tight*.

This tank is essentially like the sketch in Fig. 6. As you see, there are a number of baffles which cause the water to change its direction of flow. This slows its speed of travel, mixes it up to a certain extent, and causes it to gradually drop the most of its load of suspended matter. This usually happens in the first half of its travel, provided the design is right.

But it wouldn't do this unloading were it not for the fact that a small trickle of alum water and another trickle of mildly alkaline sal soda are fed in as the raw water enters the tank. These two chemicals react with impurities in suspension and with each other to form jelly-like particles by the million. These particles touch the suspended matter, stick to it and all slowly sink to the bottom. As a consequence, the muddy raw water is very nearly clear by the time it leaves the setlting tank. This leaves a minimum amount of work for the filter to do and when the water finally leaves the filter it is as clear as undistilled water ever gets to be.

In operation, it is all even simpler than this may sound. I understand that there is plenty of chemistry and a lot of funny formulae involved, but frankly, I am in no position to discuss such details. I will have to leave that to those who know about these things. What I am trying to do is merely to give a working explanation of this

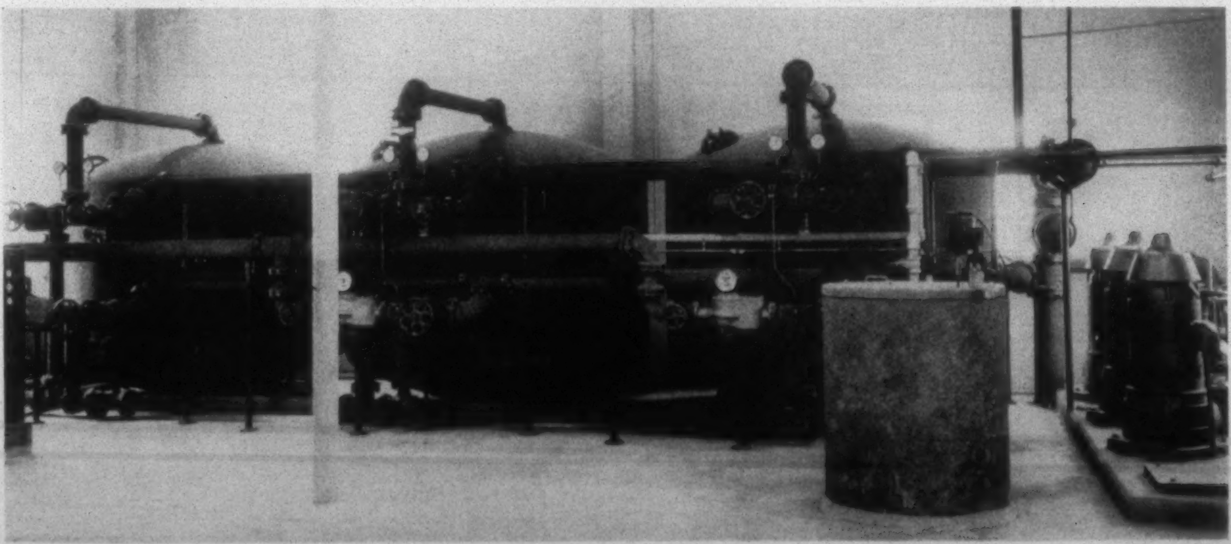

Fig. 5—Vertical pressure type filter plant. *(Photo—Hungerford & Terry Inc.)*

important process and I can assure you that it works. I sold and supervised the installation of such equipment for years. It always worked as outlined and it was always interesting, at least to me.

Softening

Now that we have filtered out the visible impurities, and have bright, clear water, it *may* be ready to use in the mill and then again it may not. The strong probability is that it should be further treated by passing it through a bed of zeolite in another piece of apparatus, which is, in most outward features, very similar to an ordinary pressure type filter. In fact it probably could be considered a chemical filter, in that the zeolite, with its sodium chloride content, reacts with the calcium and magnesium chlorides to absorb the latter two and release the sodium salt.

Zeolite can be either of natural or synthetic origin and it is defined by Mr. Webster as follows: "zeolite, —mineral— Any of a family of hydrous silicates occurring as secondary minerals in cavities of lavas." Maybe so, but there are large deposits of the natural zeolite in many localities. There is one zeolite mine in New Jersey which has been producing crude zeolite for years. It has also produced fossil bones, enormous teeth of some marine creature, and other such curiosities, as well as a pretty good income for the owners.

Since the development of synthetic zeolites with their far greater calcium and magnesium absorbing powers, the use of natural zeolite has naturally declined but I believe that it is still available if any one prefers it. The main thing of interest is that zeolite can and does quickly, perfectly and cheaply remove those chemicals which make "hard" water hard. To repeat—it will exchange sodium salts for calcium and magnesium salts. The sodium salts in these small percentages will not affect the soap baths, whereas magnesium and calcium would form sticky, insoluble compounds. This sticky muck is the thing that causes so much trouble in the dyehouse and bleachery using hard water.

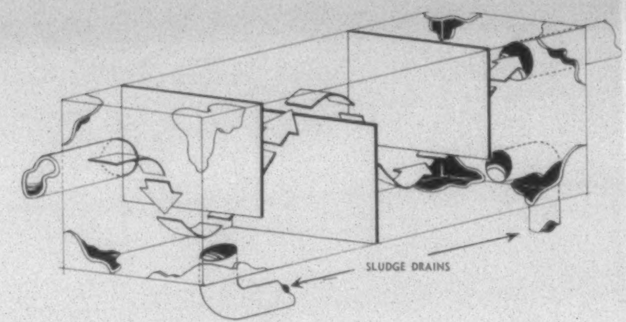

Fig. 6—A trickle of alum and a trickle of sal soda are fed into raw water entering this settling tank. The two chemicals react with impurities in suspension and with each other to form jelly-like particles which stick to the suspended matter and sink to the bottom. Baffles are placed in the tank to change the direction of the water and to give some mixing action.

Although zeolite has the power of absorbing the calcium and magnesium salts, there is a limit to the amounts of these salts it will absorb. Therefore, if the hard water

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continues to pass through the zeolite bed it will eventually emerge from the unit just as hard as it was when it entered.

Before this point is reached, however, the flow is stopped and the zeolite is treated to a concentrated bath of sodium chloride, just common salt water. Almost instantly the zeolite is regenerated. It drops its calcium and magnesium and takes on a heavy load of sodium from the sodium chloride or common salt.

The surplus salt water and the calcium and magnesium impurities are washed out. Then the softener is again ready to go on delivering zero soft water. This procedure is repeated usually every day, or every other day and requires about 45 minutes from start to finish.

Just what do you know of the actual condition of your mill's water supply? Why not call in one of these water specialists and let him make an analysis of it? He will make no charge for this work. He will simply try to sell you a filter or a softener or whatever you need to correct the trouble. You can always refuse to buy, although I doubt very much that you will refuse if you keep in mind that *water is the lifeblood of your dyehouse or bleachery.*

Watch it carefully—check its purity and softness daily. And then check the improved quality of your work, the lowering of your soap and chemical bills and be thankful to the guys who initiated the process.

Maintenance, Engineering & Handling

Organized Plant Lubrication

By R. K. GOULD
Research & Technical Dept.
The Texas Company
Beacon, New York

Part II

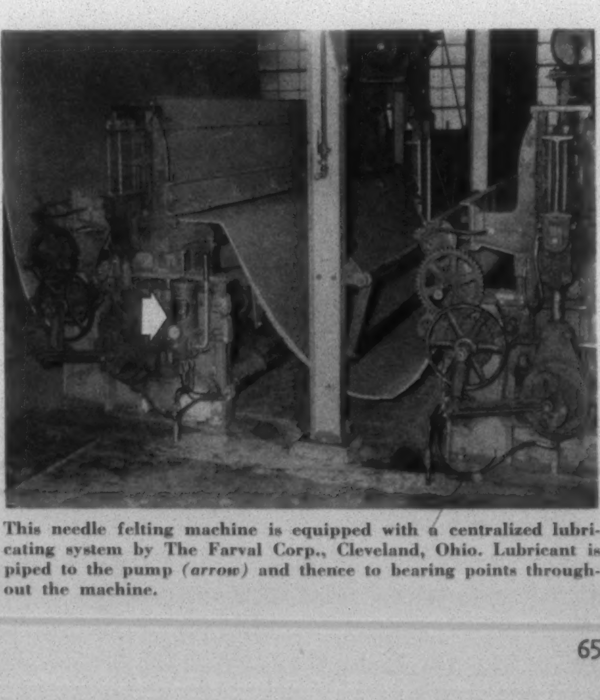
As pointed out in the first installment, the broad objective of planned lubrication is to make the practice of lubrication approach the ideal—the ideal being defined as the application of the right amount of the right lubricant to the right place at the right time. The actual program and the mechanism for carrying it out will, of necessity, vary from plant to plant. No one master plan can be devised which will be universally acceptable and fit all situations. A plan that works successfully in one plant may be entirely unsatisfactory in another. Any program must be tailor-made to fit both the needs and the operating structure of a given plant.

Generally, the more detailed the plan, the easier will be the execution and the less chance of mistakes. Obviously, a program which has to be carried out by inexperienced personnel of the lowest job classification will have to be spelled out in much greater detail than one which will be conducted by personnel with greater training and experience. Despite the fact that details may vary, there are certain objectives and goals which should be common to all plans.

Among the first steps in organizing a lubrication program is that of making a complete survey of the lubrication requirements for all of the equipment in the plant. One of the best means of accomplishing this is to prepare a master card or sheet for each individual machine. Each machine should be properly identified and its location in the plant specified. In a textile plant, a plant which has many machines of the same type, confusion can be avoided by assigning a numerical identification to each machine. It is advisable to prepare metal tags or plates containing the same identification information recorded on the cards and attach them to a conspicuous spot on the corresponding machines.

All of the information relating to the lubrication of a machine should be recorded on the cards, including a listing of the parts to be lubricated, the types of lubricants required, the frequency of application and any other pertinent data. These combined cards represent the lubrication guide for the whole plant and should be filed or bound together. They can be used to prepare plant lubrication schedules and also to keep a record of any maintenance work performed on the machines.

The selection of lubricants is a subject in itself and a discussion of the relative merits of the various methods



This needle felting machine is equipped with a centralized lubricating system by The Farval Corp., Cleveland, Ohio. Lubricant is piped to the pump *(arrow)* and thence to bearing points throughout the machine.

used is beyond the scope of this article. Nevertheless, regardless of whether they are selected by brand name, specification, or some other means, the keynote should be *consolidation.*

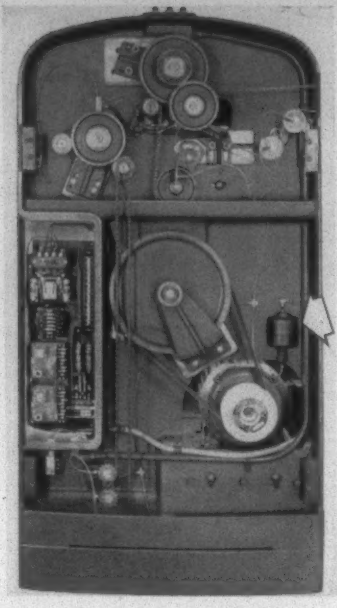
Unless a concerted effort is made to prevent it, a plant invariably will use many more lubricants than are actually required and the situation gradually becomes worse as time goes on. It seems to be a natural tendency to add new lubricants without discontinuing any of those already in use. This increases the bookkeeping and other paper work, complicates the storage and handling problem and increases the chances of misapplication of lubricants.

Consolidation of lubricants must be accomplished by an intelligent approach. The basic lubrication requirements of the equipment must always be kept in mind. When reducing the number of lubricants in use in a plant, the consolidation should always be made in favor of the quality products. For example, consider the case where a premium type of oil containing rust and oxidation inhibitors is required for machines being lubricated by a central circulating system and a straight mineral oil of the same viscosity is being used for machines being lubricated by oil cups. By using the premium product for both applications, the basic lubrication requirements for all of the machines involved would still be fulfilled, the number of lubricants would be reduced by one and the chance of the straight mineral oil being used where the premium quality product was required would be eliminated.

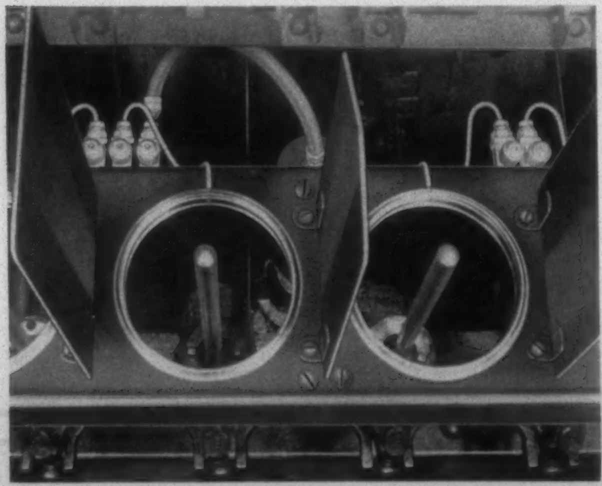
Although this consolidation would undoubtedly increase the unit cost of the lubricant used on the machines serviced by the oil cups, experience indicates that this increase would be more than overbalanced by the over-all savings that will result from reducing the stocks. Experience has also demonstrated that when a real effort is made to consolidate lubricants in a plant, usually the number of products used can be reduced by at least 50 per cent and frequently more.

Lubricant Handling

The petroleum supplier takes every precaution necessary to assure that lubricants are in the best possible condition when delivered to the customer. The user, likewise, should exercise equal care to see that when the lubricant is applied, it is in the same good condition. Normally, lubricants are not prima donna products which require unusual care. However, there are certain things that can occur during storage and handling which lead to waste, cause safety hazards and may render the lubricant ineffective. This may result in lubricant failure, increased maintenance cost and lost production. It is first necessary to recognize the bad practices and then take the rather simple, precautionary measures to avoid them. With this accomplished and with qualified personnel in charge of the handling of lubricants, there is every assurance that the lubricant will be in satisfactory condition when applied.



Twenty-two bearings are oiled by one stroke on the Bijur Lubricating Co.'s pump *(arrow)* once per shift. The lubricating system is standard equipment on the Whitin Even-Draft drawing frame.



Twister rings equipped with lubricant injectors.

There are some basic rules and some "do's" and "don'ts" which apply to all storage and handling operations.

(1) Choose storage area carefully. Select a central location so that hauling distances are as short as possible. Also select an area where the atmosphere is free from dust and vapors.

(2) Store lubricants indoors if possible—chances of contamination will be less.

(3) If stored outdoors, drums should be placed on their side and on racks—don't lay them on the ground. If placed upright on end, rain water may accumulate and be sucked into the drum by the normal atmospheric breathing action. If stored outdoors on end even temporarily, a waterproof cover should be placed over the drum.

(4) Indoor storage area, whether a separate building or whether it is a shared space, should be fireproof, have brick, tile or concrete walls and floors, and be fitted with suitable drains. Woodwork, in addition to not being fireproof, is more difficult to keep clean.

(5) Cleanliness is essential regardless of whether storage is indoors or outdoors. For indoor storage, the area should be painted in light colors, preferably white and a regular cleaning schedule maintained.

(6) Orderliness is another must. By keeping different brands and types of lubricants separated and in their proper places there is less chance for confusion and error.

(7) Exercise extreme care in heating products that have been exposed to low temperatures. If possible, transfer

drums to a warm area and allow product to reach room temperature. If more rapid heating is required, use exhaust steam. Never apply direct heat, such as a flame, to the exterior of the drum. This would melt the drum's sealing compound and cause leaking. It might also harm the product.

(8) Remember that exposure to temperature extremes can damage some lubricants. If there is any reason to suspect that this condition has occurred, examine the lubricant before using. If the product appears abnormal, consult the lubricant supplier. The lubricant may have to be discarded or it may be salvaged.

(9) Whether the plant be small or large, the dispensing of lubricants should be supervised by personnel who are thoroughly familiar with lubricants and lubricant requirements. This is a vulnerable link in the chain of operations that connect the source of the lubricant with its application.

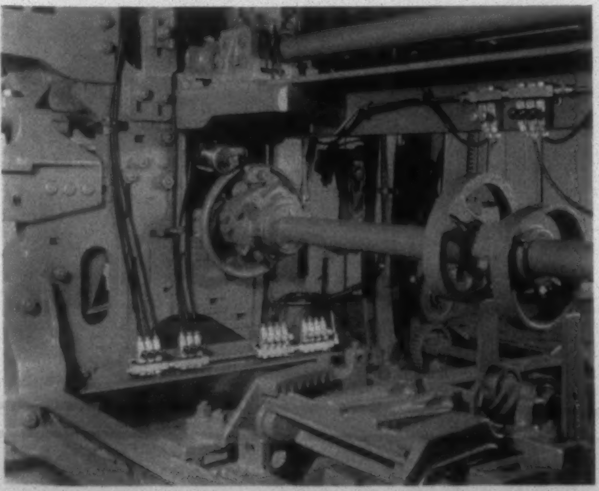
(10) The actual mechanics by which the lubricant is transferred from its storage container to the point of application and the transfer equipment used will depend upon the partitcular plant involved. Transfer pumps are available which fit the standard grease or lubricant drums and permit the product to be removed from its original container with no danger of contamination, waste or mess. By means of such pumps, lubricants can be transferred to smaller units such as portable power guns, hand guns or small containers and thence to the point of application.

Schemes can be devised for applying the lubricant directly from the drum, thus eliminating the intermediate transfer operation. For example, a drum equipped with a pump, hose and control valve can be mounted on a dolly and brought directly to the spot where the lubricant is needed. Also a system can be devised whereby the lubricant is piped from the drum to the area where it is required and hoses connected to the pipe outlets carry the lubricant directly to the machine.

Even for equipment which utilizes a centralized lubricating system, arrangements can be made to transfer the lubricant directly from its original drum.

(11) All equipment used in transferring lubricants should be located in a central spot and should be kept clean.

(12) Where many different lubricants are used, a simple code system can help avoid confusion. The code, whether



Lincoln Engineering Co. supplies this centralized lubrication system for Draper X-2 looms. Note the method of applying grease directly to cams.

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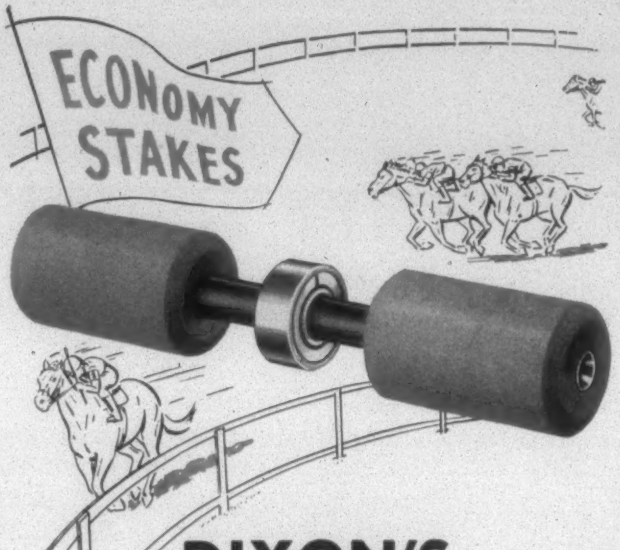

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it be alphabetic or color (be careful of color-blindness) should be clearly evident on the drum, the transfer equipment and the point of application.

(13) Keep accurate records of the lubricants used and use old stock first.

(14) Keep the oil dispensing area clean—don't let spills or drips accumulate.

(15) Keep fire protection equipment handy and in *operable condition.*

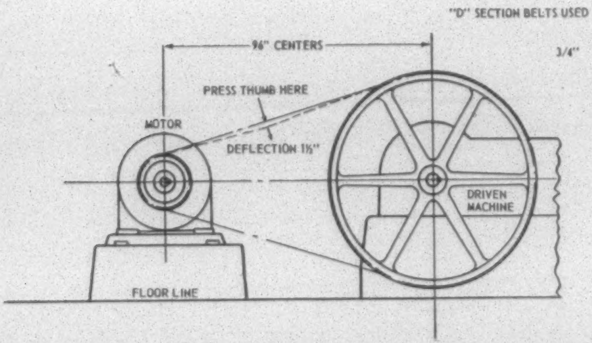
(To be continued)

How Do You Align Your V-Belts?

The correct method for properly aligning V-belt sheaves and the application of the correct tension to V-belts is described in this article. Other points covered in the article are: (1) sheave inspection method; (2) dangers of oily belts; and (3) proper storage of V-belts.

PROPERLY engineered V-belt drives provide one of the most efficient and economical means of power transmission in the textile field with a minimum of maintenance. However, attention to various factors will help prolong V-belt life and assure continuous production. These factors, checked periodically, can mean money in your pocket. They include proper sheave alignment, tension and sheave inspection.

One of the most common causes of excessive belt and sheave wear is improper alignment. It is important that driver and driven shafts be parallel so all V-belts will operate at right angles to the shafts. If this is overlooked, the V-belts on one side of the set are drawn tighter and will pull more than their share of the load. As a consequence, these belts wear out faster and maintenance costs increase.

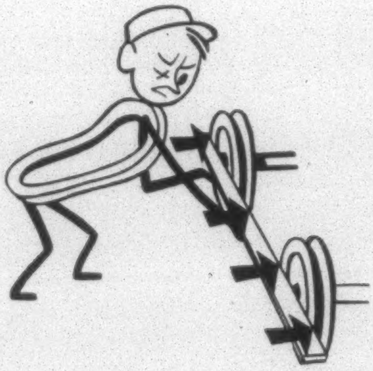


The deflection method is the best of several ways to obtain the correct operating tension on V-belt drives. With moderate thumb pressure applied to a belt at a point midway between sheaves, the deflection of the belt should equal its own thickness for each 48 inches of unsupported belt length. For practical purposes, the center distance of the drive can be considered as the "unsupported belt length" except where an idler is used. In this illustration, the deflection for the "D" section drive is:

$$\frac{96}{48} \times \frac{3}{4} = 1\frac{1}{2} \text{ inches.}$$

Things to look for in determining whether your sheaves are properly aligned are sheave grooves that are more highly polished on one side than the other, belts worn more on one side than the other, continuous squeaking and overheated bearings.

Alignment can be readily checked by placing a straightedge or cord across the rim faces of the driver and driven sheaves. If they are properly aligned and shafts are parallel, the straightedge will contact the rim face at four points—two points diametrically opposite each other on each sheave.

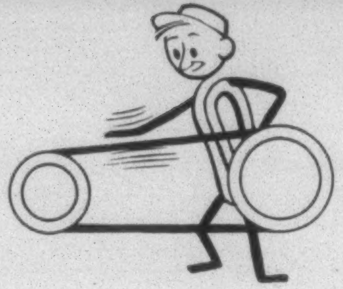


A straightedge or cord stretched across the faces of the drive and driven sheaves is a means of checking alignment. When properly aligned, the straightedge will contact the rim face at four points—two points diametrically opposite each other on each sheave.

Maintaining correct tension prevents whip and provides maximum sheave grip. Both over and under tension of V-belts can cause trouble. Over tension causes excessive bearing pressure. A loose belt can result in slip burn, snub breaks and ruptured cords in the grommet or plies. Insufficient tension is often the greatest hazard to belt life.

Proper belt tension is not difficult to determine. Apply moderate pressure to the belt at a point midway between the sheaves. A belt that can be depressed an amount equal to its own thickness for each 48 inches of unsupported length is considered to be properly tensioned. For practical purposes, the center distance of the drive can be considered as the "unsupported belt length" except where an idler is used.

To determine belt tension by slapping requires experience in getting the proper "feel." A correctly tensioned belt feels "springy" and "alive" when slapped by hand; a slack belt is dead and lifeless. It should be remembered



Determining belt tension by slapping the belt sharply with the hand requires experience in getting the proper "feel." A correctly tensioned belt feels "springy" and "alive"; a slack belt, dead and lifeless. If a belt is too tight, it won't spring.

that new belts need a breaking-in period. A certain amount of stretch occurs after belts have been installed so they should be checked regularly for tension during the first few days.

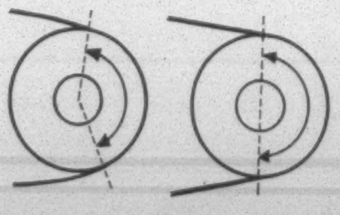
Sheaves should also be inspected regularly for burrs, rough spots or excessive groove wear. Grooves kept free of dust or foreign matter will prevent side wall wear; belts will maintain proper pitch line position and assure highest drive efficiency. Smooth sheave walls and proper belt tension assure maximum sheaves grip thereby adding life to the drive. Periodic checks of sheave grooves with the proper groove template will disclose worn surfaces. Groove walls should be true and at the correct angle.

Oil is another hazard to belt life. When exposure to oil cannot be prevented, it is good economy to install oil-resisting belts. Clean belts in clean sheaves help you get the greatest useful life from your belts. This can best be accomplished by wiping belts free of grit and oil with a dry cloth *when the drive is at rest.* Under no circumstances is belt dressing recommended for V-belts.

It is advisable to remove all tension from belts connected to machines which are idle for extended periods of time. With bearing pressure removed, the lubricant breakdown is avoided and the possibility of bearing oxidation is minimized. Also, with tension released, the belts do not tend to take a permanent "set."

Belts retain their usefulness best if stored in a cool, clean, dry area, placed in bins or hung over wall pegs. Sharp bends which could result in a permanent "set" are to be avoided; tying matching sets of belts together will avoid mismatching. This is important because V-belts in a multiple V-belt drive should not be replaced on an individual basis if the drive is to operate at its highest efficiency.

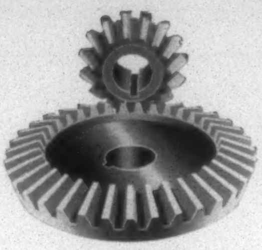
A regular check-up on sheave alignment, belt tension and condition of the sheave grooves will extend belt life. Such an inspection can be accomplished quickly and efficiently when you know what to look for.



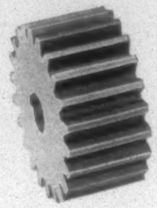
When proper tension is maintained, a V-belt grips more of the sheave and grips it harder, adding life to your drive. This is demonstrated by this sketch showing how proper tension provides maximum sheave grip.

GEARS TO YOUR SPECIFICATIONS

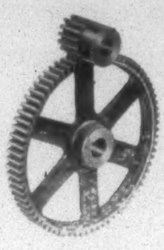
BY FERGUSON



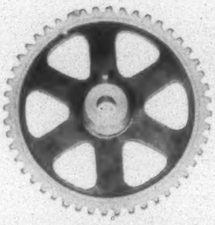
BEVEL GEARS & PINIONS



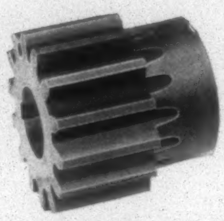
STEEL PINIONS



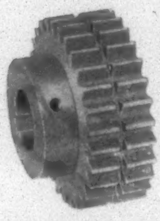
SPUR GEARS



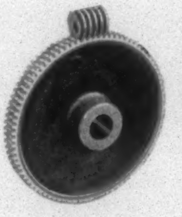
ROLLER CHAINS & SPROCKETS



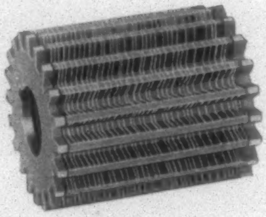
BAKELITE GEARS



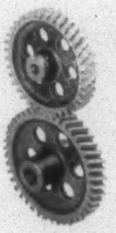
SILENT CHAINS & SPROCKETS



WORMS & WORM GEARS



RAWHIDE GEARS



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PERSONAL NEWS

Basil D. Browder

Basil D. Browder of Danville, Va., executive vice-president of Dan River Mills, was elected president of the Virginia Manufacturers Association at that group's 36th annual meeting held recently at Roanoke. Browder has been associated with Dan River Mills for more than 40 years. He joined the company in 1916. He was named secretary to the sales manager the following year and has risen through positions of increasing responsibility. He was named assistant to the president in 1940, vice-president in charge of manufacturing in 1949, a director in 1950, and executive vice-president in 1952.

Charles R. Blossom has been appointed assistant manager of sales, rayon filament yarns, Celanese Corp. of America, textile division. In his new position Blossom will be in charge of rayon filament yarn sales under the direction of R. H. Powers who recently assumed the position of manager of sales for all filament yarns. Blossom joined Celanese in 1955 as a salesman in the New England District. After attending New Bedford Textile Institute of Technology and the University of Rhode Island, he joined Franklin Process Co., and later worked in production planning with Berkshire Hathaway.

Brian Bamforth has been named dyeing and bleaching consultant to American plants for The Longclose Engineering Co. Ltd. The new technical consultant will be attached to Atkinson, Haserick & Co., Framingham, Mass., American sales representatives for the complete line of Longclose dyeing and bleaching machinery. Bamforth is a graduate of the Huddersfield (England) College of Technology and was previously employed by J. & P. Coats Ltd.

Douglas C. Newman, director of sales of the dyes and chemicals division of The Du Pont Co., has announced that he will retire on December 1. Newman will remain as a consultant to the general management of the organic chemicals department until the end of February. Newman joined Du Pont in the technical laboratory of the organic chemicals department at Deepwater Point, N. J. He progressed through the ranks of the company and in 1955 was appointed director of sales of the dyes and chemicals division. . . . William A. Bours III, director of the Freon Products Division, will succeed Newman. Bours joined the company's engineering department in 1941 as a member of the industrial engineering division staff of the Chambers Works, Deepwater Point. He was named to his present position in 1957. . . . Carl S. Oldach, assistant director of Du Pont's development department, will succeed Bours as director of Freon. Oldach has been with the company since 1940 when he was appointed senior chemical engineer in the ammonia department laboratories in Wilmington, Del. He assumed his present position in 1955.

M. H. Mettee has been named sales manager of American Cyanamid Co.'s dye department. Mettee, who assumes his post December 1, will have over-all responsibility for the marketing of all dye products of the company. His office will be in the department's headquarters at Bound Brook, N. J. Mette, who joined Cyanamid in 1932, has served the company in several sales managerial capacities, primarily in the dyes marketing field. Most recently, he has been manager of the intermediates department. A graduate of The Johns Hopkins University, he is a member of the American Association of Textile Chemists & Colorists and the Synthetic Organic Chemical Manufacturers Association.

Ernest Welles, a member of the laboratory staff of Dexter Chemical Corp., New York, since 1952, has been named chief chemist of Plant No. 1, in which position he will be in charge of quality control and development work on surface active agents for the textile industry.

James L. Fesperman

James L. Fesperman has been named to the newly created executive position of general manager for the James Lees & Sons Co.'s three new Southern manufacturing divisions. The mills are: The Pine Tree Co., Dahlonega, Ga.; Rabun Mills, Rabun Gap, Ga., and Fontana Mills, Robbinsville, N. C. Fesperman joins Lees with 25 years of experience in the industry, most recently as vice-president and general manager of Katherine Rug Mills, Dalton, Ga. Prior to that he was general superintendent of Cabin Crafts, Dalton. Previous to his experience with the tufted carpet manufacturers, he was with the Du Pont Co. for 12 years and the Standard Knitting Mills, Knoxville, Tenn. He will be headquartered at Rabun Gap, the site of Rabun Mills, the company's tufting plant.

Arch E. Cutting, sales engineer with Pneumafil Corp. for seven years, has been appointed sales representative for Meadows Mfg. Co., Atlanta, Ga. Cutting will cover western North Carolina and northwestern South Carolina. Meadows manufactures twisters and accessories.

John J. White has been promoted from machine sales supervisor of Universal Winding Co. to sales administration manager, succeeding the late Thomas L. Cotter. He will supervise all activities at the home office pertaining to machinery and parts orders. . . . Ralph F. Cox has been promoted from machine sales technician to administrative assistant to White. . . . Thomas M. Farrell has been promoted from service parts co-ordinator to machine sales technician on Unifil loom winders, a newly-created position established to keep pace with the expanding sales of this new

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winder. . . . Samuel J. Stepak has been promoted from supervisor order-billing section to administrative assistant to R. W. Hadfield, service manager.

H. M. Bowman

H. Merrill Bowman, formerly vice-president of The American Pulley Co., Philadelphia, Pa., has joined T. B. Wood's Sons Co., Chambersburg, Pa., as vice-president and director of sales. He succeeds Gordon M. Henderson, vice-president, who will assist the president, C. O. Wood Jr., in the administrative and production operations. Bowman was with American Pulley Co. for five years. Prior to that, he was with Link-Belt Co. in engineering, sales and sales management capacities for 19 years.

Marion Wallace Porter has joined the Chemstrand Corp. as a technical service representative. Porter has had many years' experience in the textile field. He comes to Chemstrand from Morgan Mills, Laurel Hill, N. C., where he had served as technical superintendent for the past three years. Prior to that he served in various capacities with Dan River Mills at Danville, Va., and with Borden Mills Inc. of Kingsport, Tenn. He is a senior member of the American Society of Quality Control and a member of the Textile Quality Control Association.

Erwin G. Walker has been named sales manager of American Cyanamid Co.'s fibers division. Walker, who assumes his post December 1, will supervise the operations of the division's four sales departments. He will report to William L. Lydell Jr., now general sales manager, who on that date will become director of marketing.

J. C. Wilmerding has resigned as manager of acetate sales and as head of staple sales for the American Viscose Corp. He has not disclosed his future plans.

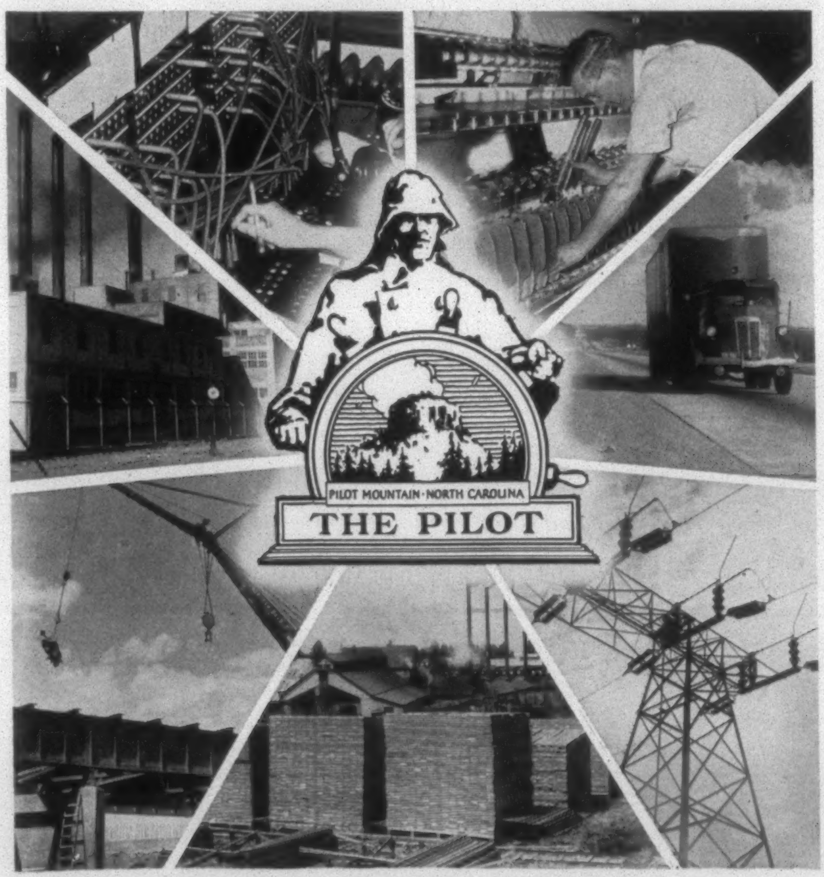
Joseph F. Smart

Joseph F. Smart has been named vice-president of Synthetic Textile Fibers Inc., a sales agency dealing in synthetic garnetts, with headquarters in Charlotte, N. C. This firm is representing Eisenberg Fibers Inc. in the South. Smart was formerly with The Chemstrand Corp. where he was assistant sales manager of the New York district.

Henry A. Weil has rejoined the Chemstrand Corp. as a technical service specialist. Weil was with Chemstrand for two years before he left in 1956 to become associate director of applications research for Sandoz Inc., New York City. He also has held previous positions with General Motors, Detroit; and National Aniline at New York. Weil is a graduate of Davis and Elkins College, Elkins, W. Va., and served as a graduate research fellow in textile chemistry and dyeing at North Carolina State College. He is a member of the American Association of Textile Chemists & Colorists and the Textile Research Institute.

H. J. Spruill has been appointed manager of the Cleveland, Tenn., yarn processing mill of The Duplan Corp., Winston-Salem, N. C. The plant is one of three mills operated by the company in both the South and the North. It supplies textured, stretch and other yarns for use in hosiery and outerwear. Spruill graduated from the North Carolina State College School of Textiles in 1951, and was sent to the Kingston, Pa., mill as assistant foreman. He then became assistant to the mill manager, throwing supervisor, and in 1955 was made assistant mill manager. The Cleveland plant has been enlarged considerably in the past few years and has been equipped with new types of machines to produce improved yarns and to increase its efficiency.

Olan Richardson, former president of Southern States Equipment Corp., Hampton, Ga., has been elected chairman of the board. His duties will be those of chief executive officer. Richardson has been with Southern States since 1939. He joined the company as chief engineer but has been president for the past 18 years. Prior to his association with Southern States, he was electronics control engineer with Georgia Power Co. for 14 years. . . . Glenn Mitchell, former vice-president in charge of manufacturing, has been named president succeeding Richardson. He joined Southern States in 1937



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and has held various positions in production and manufacturing since that time. Before joining Southern States, he worked for General Electric Co. for two years. . . . W. C. Mitchell, former vice-president and treasurer, has been named executive vice-president. Mitchell has been with Southern States since 1940. His first position was that of purchasing agent. In 1945 he was elected vice-president and treasurer, holding this position until the present time. The new assignment of top executives at Southern States is a part of the long range plan to expand the organization to meet the expanding operational requirements, the company reported.

Dr. Frank J. Soday and Walter D. Hindle have been named consultants to Air Reduction Co., New York City. The two men will help Air Reduction to determine whether or not to engage in the polyvinyl alcohol fiber business in the U. S., it was reported. Dr. Soday was formerly vice-president and director of research of Chemstrand Corp., Decatur, Ala. Hindle recently resigned as director of applications research of Chemstrand. He had also been associate director of textile research.

Frank J. Soday

Walter H. Hindle

John L. Hewitt, formerly on territorial assignment in North Carolina for the International Salt Co., has been transferred to the sales engineering staff to specialize in rock salt and evaporated salt sales to the textile industry. Hewitt joined International Salt in 1951 as general representative in the Richmond, Va., district. He was promoted to special representative in 1955. International's headquarters are in Scranton, Pa.

Elliott I. Petersen has resigned as vice-president for manufacturing in the South for Mohasco Industries, Amsterdam, N. Y. The reorganization and consolidation of the manufacturing control at headquarters in Amsterdam was given as the reason for the action. The company also announced that Petersen will continue to act in a consulting capacity for the company.

Harvey L. Spaunburg has been elected chairman of the board of Veeder-Root Inc. Spaunburg, who has been president of Veeder-Root since March 1954, succeeds John H. Chaplin, deceased. He has been with the company for 39 years. He began as foreman of The Root Co. in Bristol, Conn., in 1919, and moved up to superintendent. When The Root Co. and The Veeder Mfg. Co. were merged in 1929, he became chief engineer. Later, he was promoted to factory manager, secretary, vice-president, and in 1950, he was elected executive vice-president. . . . Wilbur C. Stauble has been elected president of the firm. He has served as president of The Holo-Krome Screw Corp., a wholly-owned subsidiary and will continue in that post while taking over the presidency of Veeder-Root. Stauble was one of the founders of Holo-Krome, which started in 1929, with him as a vice-president. Since then, he has moved up to executive vice-president, and in 1952, was named president. Also in 1952, he was named to the board of directors of Veeder-Root. . . . Andrew J. Rebmann was elected to the board. He was elected vice-president and secretary of Veeder-Root in 1954, and has been with the company since 1936 when he began work as a junior accountant. . . . Arthur E. Kallinch, vice-president of Veeder-Root, has been named to the board of Holo-Krome to fill out Chaplin's unexpired term. Kallinich has been on the board of directors of Veeder-Root since 1952 and was elected vice-president in 1947. He has been with the company for 46 years and is in charge of catalog sales.

George F. Walz has begun duties as overseer of quality control at Proximity Print Works of Cone Mills Corp., Greensboro, N. C. He is responsible for the print works laboratory and related operations. Walz was formerly with U.S.F. Aspinook Division, Gera Corp., Norwich, Conn. He did undergraduate work at Amherst College and obtained an M.A. in chemistry from Princeton University.

Ira S. Pitts has been named manager of Monarch Mills, Union, S. C., replacing L. C. Ellis. Pitts is a graduate of Clemson College and was previously associated with Monarch in 1944.

James E. Robison

James E. Robison, president of Indian Head Mills Inc., has received the annual award of the Linens & Domestics Buyers of America Inc. as "Manufacturer of the Year." The award was presented to Robison at the annual dinner of the association held on October 22 at the Hotel Plaza in New York City. The development of the first no-iron sheet, marketed under the Pequot Easy-Care brand name, was cited as the significant factor in the selection of Robison to receive the award. Indian Head has headquarters in New York City.

Alton Cadenhead has been named overseer of carding, spinning, twisting and winding at the Elm City Plant of Callaway Mills, LaGrange, Ga. Cadenhead joined the company in 1941 in the Elm City Bleachery. In 1942 he was transferred to the production department as production clerk. . . . Robert O. Whitley has been named production supervisor and designer at Elm City. Whitley has been with Callaway since 1935, when he joined the company as learner in Valway tufting. Later he was head designer in that department. In 1948 he was named assistant production supervisor and designer at Elm City. . . . Lewis Price Jr. has been promoted from trainee to assistant production supervisor. Price studied at Georgia Tech where he received a B.S. in textile management. He joined Callaway in January of this year after completing his military service. . . . Glen P. Brookshire has retired from the firm after 42 years of service. Brookshire was honored recently at a supper marking his retirement. He served as section man, second hand and overseer during his 42 years with the company.

Robert E. Smith has been named executive director of Acrilan for the Chemstrand Corp., New York City. Smith formerly was sales manager for Acrilan, Chemstrand's acrylic fiber. His new duties as a special representative of the president include co-ordination of the Acrilan product group activities through research, development, engineering, production and marketing. He will continue to make his headquarters at the company's offices at 350 Fifth Avenue. Prior to joining Chemstrand, he was assistant manager of the staple sales division of American Viscose Corp. . . . Paul W. Runge has been promoted to executive director of nylon for Chemstrand. Runge, who will also headquarter in New York, will co-ordinate nylon product group activities. He was previously technical superintendent for the Chemstrand nylon plant at Pensacola, Fla.

Robert E. Smith

Paul W. Runge

N. Browne Glenn, general superintendent of the Appleton Plant of the cotton division of J. P. Stevens & Co., Anderson, S. C., has been named plant manager succeeding Dan M. Leister, who was recently named general manager of the company's Roanoke Rapids, N. C., group of the cotton division.

John T. Rose

John T. Rose has been named branch sales manager of the Charlotte, N. C., sales office of Arnold, Hoffman & Co. Rose formerly was Arnold, Hoffman's sales representative serving textile and paper accounts in the Southern states. Prior to joining Arnold, Hoffman in 1955, Rose was employed by Fieldcrest Mills, Monsanto Chemical Co. and The Du Pont Co.

Dan M. Leister has been appointed general manager of the Roanoke Rapids group of the cotton division of J. P. Stevens & Co. Leister has been associated with Stevens since his graduation from Clemson College in 1933. He began work in Greenville, S. C., at the Dunean Plant, advancing to the position of superintendent of preparation, from which he was promoted to superintendent of the Aragon Plant in Rock Hill, S. C., in 1948. In 1951, he became manager of the Appleton Plant in Anderson, and his responsibilities were later extended to include the management of the Whitmire, S. C., plant.

Fred A. Thompson, manager of the McCormick (S. C.) Mill since 1947, has been promoted to general manager of Hartsville (S. C.) Mill. Thompson, a Clemson College graduate in textile engineering, was transferred to McCormick Mill as superintendent from Abbeville Mills Corp. in 1947. . . . Henry Repokis, plant manager of the Johnston (S. C.) Mill, has been transferred to McCormick to replace Thompson. All of the mills are divisions of Excelsior Mills, Union, S. C.

William R. MacIntyre Jr. has been named vice-president and general manager of Joseph Bancroft & Sons, Wilmington, Del., manufacturer of Ban-Lon yarns. Named to the company's board of directors for the first time was Dr. A. L. Lippert, vice-president in charge of research. All other officers of the company and board members were re-elected.

James Barbee, executive vice-president of the Cramerton (N. C.) Mills division of Burlington Industries, has been nominated for the presidency of the Greater Charlotte Textile Club for next year. Barbee is first vice-president of the club for 1958. . . . Herbert Woodward of Southeastern Factors, Charlotte, the club's second vice-president, was nominated for first vice-president. . . . Millard Gamble, regional sales manager for the textile fibers department of The Du Pont Co., was nominated for second vice-president. . . . Demont Roseman Jr., associate editor of TEXTILE BULLETIN, was nominated for another year as secretary-treasurer.

L. C. Ellis, manager of Monarch Mills, Union, S. C., has resigned after 11 years with the company to accept the post of superintendent of the New Holland, Ga., plant of Pacolet Mfg. Co.

Leland Burns has been promoted from superintendent of the Republic plant No. 3 of J. P. Stevens & Co. to general superintendent of Republic Plants Nos. 1, 2 and 3. . . . Albert S. Hartsell, superintendent of the Industrial Mill at Rock Hill, S. C., has been promoted to general superintendent. . . . M. Hurt Ramsey Jr., assistant superintendent at the Industrial Mill, has been named superintendent.

Lyman E. Frost of Belton, S. C., has been nominated for president of the Southern Textile Overseers Association. Nomination in the association is tantamount to election. Frost, who is with the Carolina Interlining Co. of Belton, will succeed George S. Pickett of Greenville. Other nominees are: Charles Grubb, Wyandotte Worsted Co., Conestee, S. C., vice-president; Harold Miller, Goulston Co., Charlotte, secretary; Joseph Bowring, Bachman Uxbridge Co., Macon, Ga., assistant secretary; Ned Howell, Kingstree (S. C.) Mfg. Co., treasurer. The officers will be formally elected at the 1959 session in March.

Joseph Jervis Jr.

Joseph Jervis Jr. has been appointed plant manager of Rocky River Mills, Calhoun Falls, S. C., major yarn-making plant of Bigelow-Sanford Carpet Co. Earlier he was associated with James Lees & Sons Co., and had served as plant manager of its Pine Tree Co. yarn mill at Dahlonega, Ga., and as superintendent of its woolen yarn division at Bridgeport, Pa.

Alfred H. Jackson Jr. has been named to the newly-created post of divisional manager, management engineering, the textile division, U. S. Rubber Co. Jackson has been a member of the rubber company since 1936 when he left Alabama Polytechnic Institute. A native of Corinth, Ga., he first joined the company at its Hogansville mills in that state, then moved to Shelbyville, Tenn., in 1946. Prior to his new appointment, he was assistant plant manager at Shelbyville.

Harold O. Carpenter Jr. has been named to handle production planning and scheduling for five greige plants of Cone Mills Corp., Greensboro, N. C. Carpenter will work with the company's Proximity Plant in Greensboro; the Pineville Plant, Pine-

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ville, N. C.; the Minneola Plant, Gibsonville, N. C.; the Edna Plant, Reidsville, N. C.; and the Dwight Division, Gadsden, Ala. Carpenter joined Cone Mills in 1950 and served as personnel assistant for the Pineville Plant and later as assistant superintendent. For the past four years he has been in the cost department.

Jack Abell

Jack Abell has been appointed a sales representative for Anheuser-Busch Inc. for bulk corn products in the South Carolina territory. In this position, Abell will call on textile mills in his sales territory that use Anheuser-Busch starches. Before joining Anheuser-Busch, he was an account executive with a radio station.

Dino D. Cimma has joined Geigy Dyestuffs, Yonkers, N. Y., division of Geigy Chemical Corp., to direct sales and technical services of Tinolite textile pigment colors. In his new capacity, Cimma will become a member of Geigy's textile pigment department with headquarters in Ardsley, N. Y. Prior to joining Geigy, Cimma was associated for 17 years with the textile color division of Interchemical Corp., Hawthorne, N. J., holding various positions in product development, technical service and sales of pigmented emulsion systems for textile printing and dyeing.

Fred J. Weir Jr. has been named superintendent of Newberry (S. C.) Mills. Weir, a graduate of Clemson College in textile engineering, has been with the company for eight years.

John W. Kaine has returned to Callaway (Ga.) Mills as manager of the nonwoven fabrics department. Kaine was associated with the company in the industrial fabrics division until a year and a half ago when he left to join Cone Mills Corp., Greensboro, N. C.

Bascom B. Blackwelder has been named board chairman of Quaker Meadows Mills, Hildebran, N. C., producer of coarse yarns and twines. Andrew L. Blackwelder was named president and assistant treasurer of the firm. H. C. Lutz and Wade H. Shuford were named vice-presidents. Margaret Newton was elected secretary and treasurer and Essie Newton was named assistant secretary. Elected to the board of directors were both Blackwelders, P. J. Baugh, Irwin Belk, B. Irving Boyle, Lutz, R. W. Maynard, G. A. Robinson and Shuford.

Milton S. Christman, production executive at Pacolet Mfg. Co.'s New Holland, Ga., mill, has been promoted to the sales department of Deering Milliken Inc., New York City. A graduate of Clemson College, Christman has been with Pacolet for 12 years. During that time he has been overseer of the cloth room, of carding, technical superintendent and, during the past year, production superintendent.

C. L. Tidwell has been named manager of the Monaghan Plant of J. P. Stevens & Co. at Greenville, S. C. Tidwell also serves as manager of the Dunean Plant at Greenville and the Watts Plant at Laurens. . . . J. D. Shepard has been named manager of the company's Aragon Plant at Rock Hill, S. C. He is also manager of the Cleveland Plant at Shelby, N. C., the Stanley N. C., plant and the Randleman, N. C., plant.

A new modern school building in Greenville, S. C., has been named in honor of Herman Cone, the late president of Cone Mills Corp., Greensboro. The Cone Elementary School has 18 classrooms and will accommodate 540 pupils. Cone Mills operates its American Spinning Plant in Greenville.

M. R. Dalton

M. R. Dalton has been named director of sales for the Chemstrand Corp., New York City. Dalton previously was manager of the Chemstrand district sales office at Charlotte, N. C. In his new duties he will supervise sales of the company's chemical textile fibers — Acrilan acrylic and Chemstrand nylon — from his new office at 350 Fifth Avenue. Dalton joined Chemstrand in 1953, following a 12-year association with American Viscose Corp. where he had served successively as general chemist, research chemist and head of the rayon staple sales office at Charlotte. A native of Winston-Salem, N. C., Dalton graduated from the University of North Carolina with a Bachelor of Science degree in chemistry in 1941. . . . Harry Cramer has been promoted to manager of the Chemstrand Corp.'s district sales office at Charlotte. Prior to joining Chemstrand in 1954, Cramer held sales positions with Erwin Mills, Durham, N. C., and Clarence L. Meyers & Co., Philadelphia, Pa. A native of Durham, N. C., he holds a Bachelor of Science degree from the North Carolina State College of Textiles.

Julian S. Jacobs has announced that he will retire and vacate his post of director of publications of Textile Research Institute and editor-in-chief of *Textile Research Journal* on May 1, 1959. Jacobs joined the institute staff in 1942 and was instrumental in conceiving and founding *Textile Research Journal* in 1945. Jacobs has agreed to continue as a consultant to the institute on publications after his retirement. Jacobs plans to leave Princeton in June and will probably reside in Georgia thereafter. He is active in several textile organizations, notably Committee D-13 of A.S.T.M. and The Fiber Society. He is a past president of The Fiber Society and currently serves as secretary of that organization. . . . Professor Richard K. Toner has accepted the appointment of assistant editor of *Textile Research Journal*. Effective May 1, 1959, Professor Toner will assume the post of editor of the journal and director of publications of the institute, replacing Jacobs. Professor Toner has been a member of the faculty in the department of chemical engineering of Princeton University since he was granted the Ph.D. degree by Purdue University in 1939. He has been a Research Associate of Textile Research Institute since 1944.

Robert J. Ritter, former superintendent of the Mills Mill No. 1 in Greenville, S. C., has been transferred to the Mills Mill No. 2 in Woodruff as superintendent. Both mills are part of the Reeves Bros. group. Ritter has been with Reeves Bros. for 20 years. He has served mills in Rutherfordton, N. C., Chesnee, S. C., and Bessemer City, N. C.

W. A. Pridmore has been named superintendent of weaving at Exposition Cotton Mills Co., Atlanta. Pridmore was formerly with A. D. Juilliard for a number of years as assistant superintendent. He has also been associated with Judson Mills, Greenville, S. C.; the Dunean Plant, J. P. Stevens & Co., Greenville; Aragon (Ga.) Mills; and the Mathews Plant of Greenwood Mills, Greenwood, S. C.

OBITUARIES

Newton G. Hardie, 56, manager of Chicopee Mfg. Co.'s plant in Walhalla, S. C., since 1950, died November 9. Surviving are his widow, a son and a daughter.

M. D. Pittman, 72, retired superintendent of the Burlington Mills plant in St. Pauls, N. C., died last month in a Lumberton, N. C., hospital.

Edward L. Whitten, 46, overseer of weaving at Fairfax (Ala.) Mill, division of West Point (Ga.) Mfg. Co., died November 14 in an Atlanta hospital. Whitten had been an employee of Fairfax since 1934. Survivors include his widow and a foster son.

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MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

SYLACAUGA, ALA.—Avondale Mills here has reported net earnings of $1,003,066.12 on net sales of $52,163,814.56 for the year ended August 31, compared with net earnings of $1,407,360.94 on sales of $55,721,061.46 for the previous year. The company reported that it shipped 69,415,143 pounds of fabric and yarn to its customers against 75,579,059 pounds in 1957. The company also reported that it spent $1 million on new machinery during the last fiscal year and will spend $1.5 million in the present fiscal year for the same purpose.

NEW YORK, N. Y.—Consolidated net sales for the Riegel Textile Corp. here for the fiscal year ended September 27 was $80,969,000, against net sales of $89,485,916 for the previous year. Net income for the latest period was $703,000 or 62 cents a share as compared with $2,538,366 or $2.62 a share in the previous year.

LEXINGTON, N. C.—Net profit of $733,618 on sales of $27,516,032 was reported by Erlanger Mills here for the fiscal year ended August 30. This compares with net profit of $838,543 on sales of $28,092,710 for the previous fiscal year. On August 30 current assets were listed at $16,505,536 with liabilities of $1,957,121 as compared with assets of $16,659,133 and liabilities of $2,269,094 at the end of the previous year.

DANVILLE, VA.—Consolidated net sales of Dan River Mills for the nine months ended September 27, 1958, amounted to $115,896,802, off slightly from the record volume of $119,083,740 in the comparable period a year ago. Net operating earnings, excluding non-recurring income, declined to $3,135,742, as compared with $3,763,747 in the first nine months of 1957. On a per-share basis, this was equal to 67 cents compared with 81 cents last year. Non-recurring income items amounting to about $650,000 after taxes and equal to about 14 cents per share will be treated as a year-end adjustment. Lower sales volume and net earnings had been anticipated in the third quarter, generally a period of reduced business activity for the company's product lines. For the quarter, sales were $36,253,980 and net earnings $854,058. Sales volume and net profit for the fourth quarter are expected to be better than those of any prior quarter this year. However, fourth quarter results, exclusive of non-recurring income, will fall somewhat short of those for the final period of 1957.

GREENSBORO, N. C.—Burlington Industries Inc. has concluded negotiations for acquisition of controlling stock interest in Sidney Blumenthal & Co., according to Spencer Love, board chairman of Burlington, and Roy H. Niebling, president of Blumenthal. Blumenthal is a major producer of pile fabrics for varied purposes, including furniture, apparel, toys, automotive, carpet and other products. The 104-year old company operates plants in Rocky Mount and Wilson, N. C., and Valley Falls, R. I. For more than 100 years it has sold products under the name of The Shelton Looms. Its executive offices are in New York City. Controlling interest is being acquired by Burlington at $6.50 per share. Blumenthal has 809,611 shares outstanding and authorized for issuance upon exercise of warrants, and the interest being purchased by Burlington will represent approximately 77% of the equity in Blumenthal. As a condition of the acquisition, Burlington will offer to purchase the remaining shares at $6.50 per share from other stockholders upon completion of the acquisition of controlling stock interest. Blumenthal stock is listed on the American Stock Exchange. For the nine months ending September 27, 1958, Blumenthal reported sales of $15,790,475, as against sales of $14,389,371 for the comparable period a year ago. Net profit from operations for the nine months' period this year was reported as $12,161 as against $61,213 for the comparable period last year. The Blumenthal organization will continue to operate under the direction of Niebling as president and without any major changes.

NEW YORK, N. Y.—M. Lowenstein & Sons showed net income of $320,946 for the three months ended September 30 as compared with income of $444,755 in the comparable period last year. Total sales for the quarter were $98,553,655 compared with $100,881,506 in the previous period. In the nine-month period ended September 30 net profit was $1,205,293 against $2,735,519 in the like 1957 period. Total sales for the nine months were $323,680,127 against $343,094,380 for the corresponding period last year.

GREENVILLE, S. C.—Construction of a modern one-story addition to the main office of Union Bleachery here, division of Cone Mills, has begun. The new addition will be between the main office and the recently completed warehouse. It will provide additional space for administrative offices of the division.

ALBANY, GA.—The employees of A & M Karagheusian Co. at Albany voted almost three-to-one against representation by the Textile Workers Union of America. The vote was 71 against the union, 27 for the union, with 20 challenged ballots. The campaign marks the first election held as a result of the current drive by the T.W.U.A. to organize plants in the tufted and woven carpet industry in the South.

TIFTON, GA.—Peerless Woolen Mills, a member company of Burlington Industries, has announced plans to build a new manufacturing plant in Tifton. It was reported that an agreement has been reached with the Tifton Industrial Corp. to purchase land and construct the new plant. Construction is scheduled to begin in the very near future, and the plant is expected to be in operation within a year. The new plant will be an air-conditioned one-story structure, incorporating latest developments in textile plant engineering. Floor space of approximately 175,000 square feet is anticipated, and it is estimated that initially 500 employees will be needed. The Tifton plant is one of three in the Peerless Woolen Mills organization, producer of woolen fabrics for men's and women's clothing, automotive fabrics, blankets and worsted yarns.

GREENSBORO, N. C.—Net sales of Cone Mills Corp. for the first nine months of the year totalled $123,556,575 compared with $131,430,292 for the same period last year. Net income for the period was $2,443,743 against $3,280,665 last year. Per share earnings for the period were 67 cents against 91 cents last year.

BALTIMORE, MD.—Mt. Vernon Mills here has reported sales of $28,988,000 for the first three quarters of the fiscal year as compared with $36,064,000 for the same period last year. Net income fell to $152,000 or 19 cents a common share against $623,000 or 82 cents a share for the preceding year. The company reported that the volume of new business had reached an encouraging level. Mt. Vernon produces synthetic and cotton fabrics and yarns.

ATLANTA, GA.—Fulton Bag & Cotton Mills will change its name to Fulton Cotton Mills on January 1. The change in name follows the recent decision to drop the manufacturing of bags and concentrate on industrial fabrics.

NEW YORK, N. Y.—Reeves Bros. Inc. has reported a net loss of $219,191 for the fiscal first quarter ended September 27. A net profit of $35,840 was shown by the company in the same quarter last year. Net sales declined to $10,893,289 from $11,507,757 last year. Reeves operates 11 mills in the South producing a full line of cotton fabrics.

NEW YORK, N. Y.—United Merchants & Manufacturers reported consolidated net earnings of $2,151,000 for the first fiscal quarter ended September 30 against $2,332,000 in the same quarter last year. Income tax provision amounted to $1,078,000 against $1,007,000 in the comparable period last year. The company does not disclose its sales.

AMSTERDAM, N. Y.—Mohasco Industries here has announced that operations in the third quarter and in the first nine months of 1958 produced improvements in earnings and in the company's financial condition compared with similar 1957 periods, despite a 14% reduction in sales volume. Third quarter sales totaled $19,885,879 and nine months' sales $64,014,576 compared with $23,056,475 and $74,699,353, respectively, in 1957 periods. Third quarter profits totaled $1,350,094 and nine months' profits $3,365,934 compared with $649,050 and $1,970,759 in similar 1957 periods.

Storage Conditions Affect Grade Of Cotton

By **DOROTHY NICKERSON**
and
JOSEPHINE J. TOMASZEWSKI*

THE dollar value of a bale of cotton can be seriously affected if the cotton changes color while in storage. For many years, producers and marketing men have taken cuts in price because their cotton deepened in color and therefore decreased in value.

How this change in color can be lessened or eliminated and what causes it in the first place are being studied by the cotton division of the Agricultural Marketing Service in connection with storage of official grade standards. Technologists have been testing storage conditions—different temperatures and different amounts of humidity—to see how they affect the color of raw cotton. These tests showed that cotton held its color best when stored at 50° F. and 50 per cent relative humidity.

Test results further indicate that refrigeration alone will not prevent color changes occurring in cotton during storage. Storage under 50° temperature accompanied by controls that keep humidity reasonably low should succeed in holding color changes to a satisfactory minimum. However, where it is not possible to control temperature, a control of humidity alone would reduce the degree of color change that might otherwise take place.

Generally, high grade cotton undergoes a greater change in color than cotton of a lower grade. However, spotted and tinged grades show about the same amount of discoloration as white grades.

Unfortunately, the only available storage space for A.M.S. tests, held in Beltsville, Md., and Experiment, Ga., was in rooms where other tests were being conducted with fruits and vegetables. The unusual introduction of pencillium mold from the fruits and vegetables also affected the color change in the cotton.

Cotton used in the tests came from four different cotton-growing regions—the South Central, the Southeast, the West and the Southwest. Of the 24 U.S.D.A. grades of upland cotton now in effect, 11 of the white and tinged grades were represented in the study. Four spotted grades also were included. Storage temperatures were held at 14 different points, ranging from 0° to 100° F. Humidity was held at 50 per cent and 85 to 90 per cent.

At the beginning of the test period, in May of 1956, all of the cotton samples were measured for color. Researchers made preliminary color measurements on a few samples after three months' storage, on a few more after six months. All samples were measured after nine months and again at the end of one and two years. A final color measurement will be made at the end of the three-year storage period.

Little or no color change occurred in a one-year period with storage temperatures held at 0° and 22° F. When the temperature ranged from 32° through 38°, 40° and 45° F., the cotton darkened due to the presence of mold in the uncontrolled high humidity of the storage bins. At 60° F., there was some yellowing but this was overshadowed by the darkening caused by the mold. At the end of nine months, it was necessary to discard some of the samples held at 60° temperature because of the wet and moldy conditions.

At 85° and high relative humidity, the color changed even after three months' storage. The white grades yellowed enough to be classed as spotted and the upper grades even turned to tinged with a darkening as well as yellowing. The spotted and tinged samples both darkened and yellowed. With a storage temperature of 70° F. and a humidity of 50 per cent, there was noticeable yellowing, especially in the better grades of cotton. At 100° F. and a humidity of less than 50 per cent, noticeable yellowing occurred during the first six months. This has continued to the present. At less than 90 per cent humidity, the color change was greater and occurred more rapidly.

How these color changes can affect the value of a bale of cotton can best be illustrated by taking a look at the 1956-57 prices for the various grades. That season, good middling $1\frac{1}{32}$-inch cotton sold for $176 a bale; good middling for $153. If storage conditions changed the color of a bale enough to drop the grade of good middling to good middling spotted, the producer or any other owner would lose $23 on each bale. Were the cotton to change even further—to good middling tinged or yellow stained, its value would again be reduced. Good middling tinged brought only $129 a bale; yellow stained, $115.

Spinner-Breeder Conference Held

Cotton industry leaders met October 21-22 in Lubbock, Tex., for the biennial Spinner-Breeder Conference. The advisory research committee of Delta Council was sponsor for the meeting. Host was the Plains Cotton Growers Inc.

Walter Regnery, vice-president of Joanna (S. C.) Cotton Mills Co., in giving the keynote address, told the conference that detailed studies have shown that excessive drying and handling of cotton is resulting "in poorer processing performance in the mill at both spinning and weaving stages, poor quality of yarn both as to strength and appearance, and . . . in inferior fabrics."

Regnery said that "tests repeatedly proved that excessive heat and cleaning procedures reduced the end use value of the cotton but at the same time time raised the loan price of the cotton." He made his remarks while reporting on mill tests of ginned cotton under controlled conditions to determine the effect of various gin practices. Joanna Mills took part in the tests which were sponsored and supervised by the American Cotton Manufacturers Institute, the National Cotton Council, the Institute of Textile Technology, Textile Research Institute and the U. S. Department of Agriculture.

Regnery said that, in his opinion, "research projects such as that completed at Joanna this Summer, and planned for years to come at the new pilot spinning plant at Clemson College, Clemson, S. C., will do much to change our buying habits of the future." He added: "I feel that the experiences of mills in this country with the crop of last year were such that there will be a turning away from the higher grades to bright low middling and strict low middling.

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* Dorothy Nickerson is a cotton technologist and Josephine J. Tomaszewski is a color technologist in the Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, Atlanta, Ga.

"We found out through necessity that we could use lower grade cotton and actually have a better quality cotton. In addition to better true quality, we can clean it more cheaply than the cost involved to us for the premiums now existing. Therefore, is it any wonder that there will be a change made in our buying habits?"

"I sincerely believe," he concluded, "that it is high time that the manufacturer, the producer, and the ginner begin to think of cotton quality as being necessary to the economic welfare of all concerned, rather than as the special province of any one segment.

"United, we can solve our problems in a manner that will be profitable to all concerned. Divided, we shall only encourage the increased use of substitutes, and a market once lost is a market never regained."

Pointing out there are many opportunities for better quality results in new opening and blending equipment now available for textile mills, A. V. Moody of James Hunter Inc., Greenville, S. C., told the group that cleaning equipment cannot operate at maximum efficiency with rate of flow from volumetric feeders varying plus or minus 20%. He said positive, even flow of cotton in the cleaning system determines cleanliness and lap variation.

The importance of short term variation demands that a picker be fed a homogenous blend, ounce by ounce, from whatever extremes of cotton characteristics present in predetermined lot bales. For example, 1/3-inch of a 14-ounce lap can become 36 inches of card sliver. Uniformity of this same 36-inch length of sliver is dependent on thorough homogenous blend of all cotton characteristics presented to blending hoppers. Volumetric feeder blending is based on the law of averages, and results can only be based on operator's activity and cotton characteristics. He described the new blending system recently introduced to the trade by James Hunter and said that thorough blends achieved with automatic weighing feeds increase break factor and give greater uniformity in yarn appearance and diameter. He stressed the degree of quality control of finished yarn and the possibility of incorporating suggested raw material cost reductions without degradation of end product.

Carl Brandt, research consultant for Whitin Machine Works, Whitinsville, Mass., described benefits derived from the new large package spinning frames now available to textile manufacturers. He said "The success of the final operation in yarn production—namely spinning—is based upon the assumption that the cotton grower has made a proper choice of seed, produced and harvested a good stand of cotton; and second that the ginner has treated this staple gently and carefully. If these conditions are not properly met, the mill producing yarn must pay an economic penalty in attempting to overcome any deficiencies. The success of economical spinning depends upon the proper preparation of the raw stock. If at any stage this rugged cotton fiber is injured, all of the intermediate operations become less efficient and more costly."

Limiting his discussion to the spinning frame, he de-

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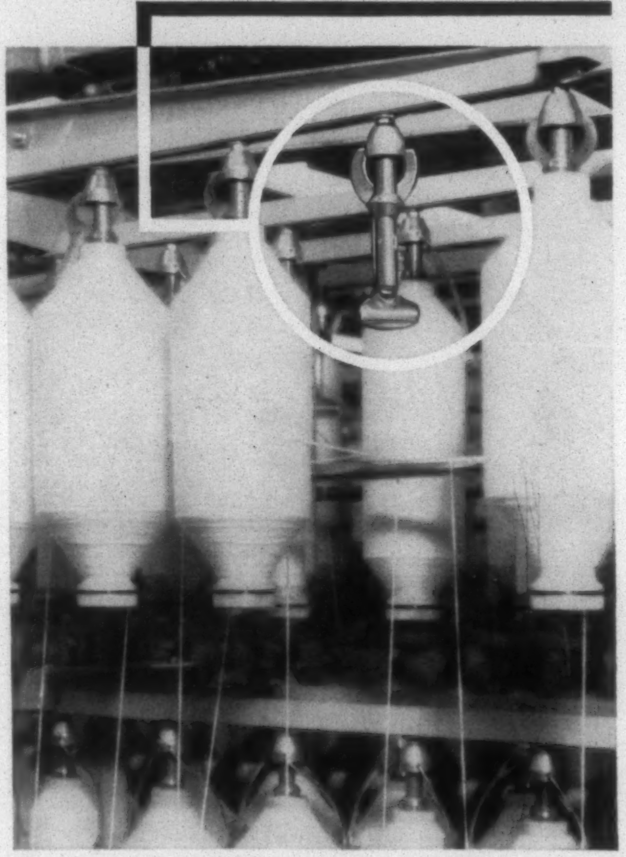

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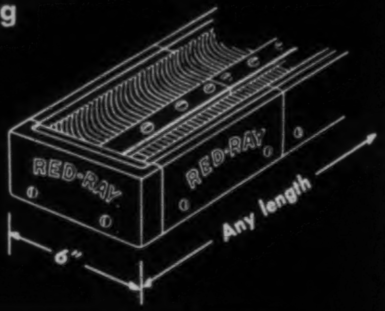

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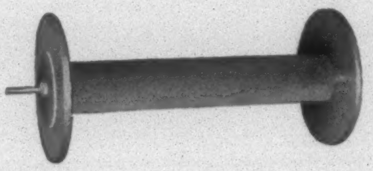

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scribed some of the conditions that are affected directly by bobbin size. Increasing the size of the full bobbin on the spinning frame does not increase the work load of the frame operator in any way, said Brandt. Her normal duties remain the same whether the bobbin is two inches or three inches in diameter or whether it is nine inches or 11 inches long. Using these limits in combination a 3 x 11-inch bobbin would contain approximately three times as much yarn as a 2 x 9-inch bobbin. Assuming that these two bobbin sizes could be run at identical speeds it would mean that the down time due to doffing could be cut to one third of normal if the larger package could be used. There are other factors that enter into doffing time required that prevent this advantage being fully obtained. While a doffer might lift 950 per hour of the smaller bobbins, the larger ones might require a cut back to about 750.

Brandt said the larger package offers distinct possibilities of savings at the winding process which follows spinning. The work load is determined by the number of bobbins that the machine tender can handle in any given period. "If the bobbin contains three times as much yarn," he said, "the worker can tend approximately three times as many winding units."

He pointed out that a second minor advantage is the matter of less knots. Referring specifically to the Whitin Piedmont frame, he said with an increase in package size there must be a reduction in the number of producing units within any given length of spinning frame. To offset this loss of production per unit area due to increased gauge, or distance between spindles, a narrower frame has been built.

Spindle speed, and consequently production, has always been limited by the ability of the small traveler to withstand high speed. An old rule of thumb stated that one mile a minute was about the top speed if normal traveler life was expected. Now with improvements in material and design it is possible to attain speeds of 700 feet per minute, an increase of 35%. Therefore these larger packages may be run at speeds that were formerly common with those made on much smaller rings. As a result, front roll speeds can be maintained and production kept at former levels.

Elmer McVey, vice-president, Saco-Lowell Shops, Boston, Mass., concluded the machinery discussion by describing an outstanding sliver-spin installation which he said had fulfilled the most optimistic expectations conceived when the initial plans were drawn up. He said use of the can-spin system enabled the mill to make over 1,000 different types of twines and cords at one time. The production is of highest quality and reduction in work force almost 50%.

Important results have been extremely significant savings in labor and the ability to use a lower grade of cotton. This has been made possible by the use of better opening, larger card coilers, only 12 deliveries of one-process high-speed drawing, the complete elimination of roving, and the higher production from fewer spindles.

Two panel discussions were held during the conference. The first dealt with "Opportunities in Quality Evaluation" and was moderated by Dr. C. R. Sayre, president of Delta & Pine Land Co., Scott, Miss. The other was concerned with "Upgrading Cotton Quality" and was moderated by Harold Loden, Paymaster Farms, Plainview, Tex.

Saco-Lowell Changes Announced

Elmer J. McVey has resigned as vice-president of Saco-Lowell Shops, Boston, Mass., and assistant general manager of its textile machinery division. Thomas J. Ault, Saco-Lowell president, expressed regret over the resignation. Harry K. Smyth, vice-president and assistant general manager of the company's gear and machine division at Sanford, N. C., was named to succeed McVey. Smyth will keep his position with the gear and machine division.

E. J. McVey

Harry K. Smyth

J. W. Hubbard

E. T. Cansler

Herman Jones

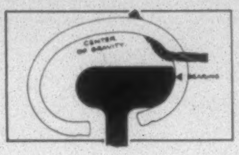
Howard J. Haug, division controller at the Sanford plant was named manufacturing manager of that division and Pete Thoresen was named manufacturing manager of the textile machinery division. Revision of the textile machinery division sales organization with J. Woodward (Woody) Hubbard as new general sales manager was announced. Hubbard was formerly district sales manager at Charlotte. Herman J. Jones, district manager of the Atlanta, Ga., district, was named assistant general sales manager. Taking over as Atlanta district sales manager is James E. Wright. Edward T. Cansler is the new Charlotte district sales manager.

In other action, the company announced that in keeping with the consolidation of the textile machinery manufacturing operations in the Carolinas, a research and development center will be established in connection with Clemson College. Clemson welcomed Saco-Lowell as the first company to join with it in the development of an extensive industrial research center.

The research and development center will be housed in a new 40,000 square foot building which will be erected on 35 acres in the Ravenal Research Center. Ground will be broken about December 1, with completion of the structure expected by June 30. The building will be constructed by Liberty Life Insurance Co. as an investment.

Dillon Heads Textile Education Council

Dr. John H. Dillon, director of the Textile Research Institute, Princeton, N. J., was elected president of the National Council for Textile Education at that group's meeting last month. Dillon succeeds Cleveland Adams, head of the Textile School at Auburn. Elected to the vice-presidency of the council was Raymond K. Flege of Texas Tech, Lubbock, Tex., who succeeds Dillon. Dr. L. H.



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Hance of the Institute of Textile Technology, Charlottesville, Va., was named treasurer.

The group was told by Jack Davis, Chemstrand Corp. and president of the Fiber Society, that the society is considering a program of making awards to young men who have made an outstanding contribution to fiber science during the year. The society wants to co-operate with the textile college deans in this proposal, Davis said.

In other business, the council memorialized the late Edward T. Pickard as "the father of modern textile education." The resolution in his memory expressed appreciation for his work and saddness at his death.

Members of the council met at Decatur, Ala., as guests of the Chemstrand Corp.

A.C.M.I. To Work With F.T.C.

Halbert M. Jones of Laurinburg, N. C., president of the American Cotton Manufacturers Institute, has announced the appointment of a special committee to work with the Federal Trade Commission in connection with the drafting of regulations for administration of the textile fiber products identification act.

Robert P. Lynn of New York, Burlington Industries Inc., was named chairman. Other members include: A. W. Anthony, New York, J. P. Stevens & Co.; W. C. (Dan) Daniel, Danville, Va., Dan River Mills; Donald K. Evans, New York, Riegel Textile Corp.; Don S. Holt, Kannapolis, N. C., Cannon Mills Co.; Harold Kennedy, New York, Deering Milliken & Co.; John J. McMahon, Providence, R. I., Berkshire-Hathaway Inc.; Elliot Neal, Belmont, N. C., Aberfoyle Mfg. Co., and Felix Schwamberger, New York, Bloomington Mills.

Japanese Reported Seeking Higher Quota

The Japanese cotton textile industry has reached its peak in terms of production, exports and political influence, with a production of over three billion yards of cloth a year of which half is so exported and another substantial quantity exported in apparel and other forms, Sheldon C. Wesson, Far East Bureau Chief of Fairchild Publications at Yokohama, Japan, stated in a November 6 address before The Association of Cotton Textile Merchants of New York.

Picturing an industry under pressure to meet short term financing and maintain employment under varied market and profit conditions, he suggested that Japan could no longer depend on mere volume for export profits, but must trade in higher class goods and into finished fabrics and secondary market products, all yielding that nation more income per pound of cotton imported.

Wesson stated that he held no brief for those resorting to "crude and disruptive selling methods" that have "shoveled" goods into the United States market on the Japanese side, nor for "extreme protectionists" on this side.

He forecast a much firmer stand by Japan on 1959 quotas since the results for this mid-year of the five-year Japanese quota may have a strong bearing on those for 1960 and 1961. Japanese trade associations have asked a 20% increase in the 235 million yard per year figure, but their government has found statistical justification for asking a rise of 10%. He pointed out that Japan last year shipped 80 million yards of the piece goods quota, with probably around 100 million this year, and a probably full quota in 1959 of 113 million. With the piece goods quota full, Japan would not have flexibility to shift from the piece goods to made-up goods and apparel categories, and the Japanese desire to sell more made-up goods with more added labor value and increased dollar revenue. He suggested the possibility Japan might trade a requested increase in velveteen quotas for a larger gingham quota.

Wesson cited forces within the Japanese industry and government that might wish to abandon quotas altogether after 1961, but felt this is a minority view. He suggested that if Japanese administration can "gain face" with even minor concessions in the quota system, pressures which might force some more drastic later moves might be turned aside.

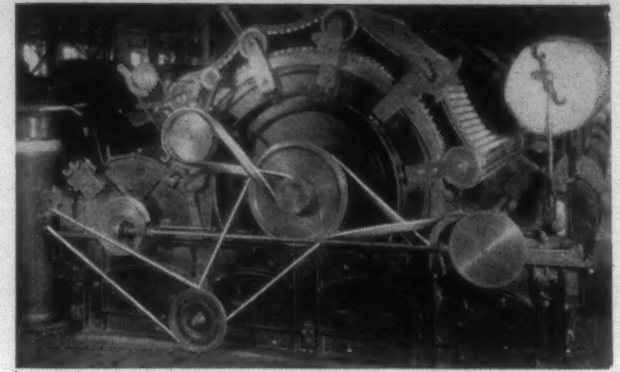
A.A.T.C.C. Holds Annual Convention

The American Association of Textile Chemists and Colorists held its 37th annual convention at the Conrad Hilton Hotel, Chicago, Ill., October 30 to November 1. Five papers were entered in the annual contest between the divisions of the organization. The competition was won by the Piedmont Section whose subject concerned research tracing much of the trouble with non-uniform dyeing of synthetic fabrics to uneven heat treatment during early processing. Second prize in the contest went to the Delaware Section with a paper on the research study showing that dyeing with the use of carriers can be applied to cotton and wool as well as synthetics for special effects. A paper demonstrating that resin-treated fabrics can be made stronger by the addition to the resin bath of chelating agents, compounds ordinarily used to remove dissolved metals from water or as softeners of fabric, merited third prize for the Rhode Island Section.

The Olney Award, given each year by the A.A.T.C.C. for the outstanding achievement in the field of textile chemistry, was presented to Henry E. Millson of the American Cyanamid Co. The author of numerous technical papers on dyeing and textile problems, Millson is credited with the invention and development of testing and evaluating instruments which make it possible to observe the action of dyes on textiles known as Microdyeoscopes. He is also the co-inventor of the Perspirometer, an instrument used to measure the fastness of dyed material exposed to perspiration.

The Piedmont Section's prizewinning paper, "The Effect of Thermal Treatments on the Dyeability of Thermoplastic Yarns," was delivered by Neal Truslow, U. S. Rubber Co., Winnsboro, S. C. It pointed out that wide changes in the dyeability of man-made fibers and in the uniformity of shade in finished fabrics are a result of temperature variations in pre-dyeing operations such as slashing, setting or scouring. Tension and moisture content as well as temperature, were cited as factors which must be kept uniform in these early operations to assure level dyeing. Temperature variations at certain temperature levels were said to have exaggerated effects on dyeing uniformity.

Special data reported in the paper told of developments to aid the practical dyer in finding the proper temperature level and allowable variations. The fibers studied include: Orlon, nylon and Dacron, all of The Du Pont Co.; Nylenka, of The American Enka Co.; and Arnel, of The Celanese Corp. of America. Dyes having large molecular cross-sections were reported to be most critically affected by heat variations. Variations in temperatures above 300° F. cause the most rapid changes in dyeability, the paper said.



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Industry Officials Advise Government

Representatives of U. S. cotton broad-woven fabrics manufacturers met recently with U. S. Department of Commerce officials to discuss current problems and trends of the textile industry affected by import competition.

Henry Kearns, assistant secretary of commerce for international affairs, who presided at the meeting, said the main purpose of the meeting was to obtain industry's appraisal of the current trends in production and demand for cotton textiles and its views concerning the present and future operation of the Japanese textile export program.

Industry representatives pointed out the continuing decline in U. S. cotton goods output with 1957 off about 8% from 1956 and 1958 showing a further drop, estimated at 13% less than 1956. They also stressed the unfavorable price situation and consequent poor profits.

Representing the textile industry were: R. Buford Brandis, American Cotton Manufacturers Institute, Washington, D. C.; W. J. Erwin, Dan River Mills, Danville, Va.; F. E. Grier, Abney Mills, Greenwood, S. C.; Robert C. Jackson, A.C.M.I., Washington, D. C.; R. H. Jewell, Crystal Springs Bleachery, Chickamauga, Ga.; Halbert M. Jones, A.C.M.I., Laurinburg, N. C.; Joseph Miller, Northern Textile Association, Boston, Mass.; Seabury Stanton, Berkshire Hathaway Inc., Providence, R. I.; Robert T. Stevens, J. P. Stevens & Co. Inc., New York City; J. Craig Smith, Avondale Mills, Sylacauga, Ala.; and William F. Sullivan, Northern Textile Association, Boston, Mass.

Riegel Textile Becomes I.T.T. Member

Riegel Textile Corp., New York City, has been elected a supporting member of the Institute of Textile Technology, Charlottesville, Va. Announcement of the election followed the biennial meeting of the institute's technical advisory committee and board of trustees and was made by Dr. L. H. Hance, president.

Over 100 top-level management personnel representing 38 major textile corporations were present for two days of meetings to discuss technical problems of the industry and means for overcoming these problems through a continuing program of co-operative research.

Included in these discussions and reports made by the institute staff were such subjects as selection of cottons for better processability; processing studies in the fields of combing, roving, spinning, slashing and weaving; chemical research in finishing, modification of cotton, and aids to processing; statistical quality control and operations research applications to textile problems; new instrument developments such as portable picker lap meter and a portable meter for detecting poor producing deliveries in plants.

The meeting was told that over 450 persons from member companies had attended schools conducted by I.T.T. staff personnel at the institute and in the mill areas. The schools covered processing research and statistical quality control for overseers, standards personnel and quality control personnel.

Founded in 1944, the Institute of Textile Technology has continued as a privately-owned organization providing research, educational and informational services to member textile companies.

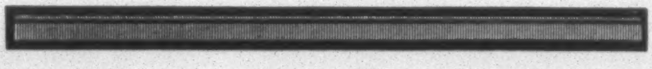
Alabama Textile Education Group Meets

A watch-dog committee has been formed by the Alabama Textile Education Foundation Inc. to goad state government officials into keeping facilities of Auburn up-to-date. The action was taken at the foundation's recent semiannual meeting at Auburn. It was explained that the resources of the foundation are not sufficient to assure this.

The group heard a statement by M. Earl Heard, chairman of the textile education committee of the American Cotton Manufacturers Institute expressing that group's concern with textile education. The foundation is part of activities of the Alabama Textile Manufacturers Association.

Georgia Tech Offers Management Course

Registrations are now being accepted for "The Business Game," Georgia Tech's laboratory course in management decision making. The program is designed to give the management personnel of the South a chance to learn from simulated competition. The participants must compete against one another and against a pre-set economy built into an IBM machine. The course is sponsored by the Associated Industries of Georgia; The School of Industrial Management; the Rich Electronic Computer Center, engineering experiment station; and is arranged through the engineering extension division of Georgia Tech.



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Employment Gains Noted In Southeast

Total nonagricultural employment in the Southeastern states increased again in September according to Brunswick A. Bagdon, regional directior of the U. S. Department of Labor's Bureau of Labor Statistics in the South. Approximately 76,500 workers were added to employment rolls between August and September in the eight state region. Each of the states shared in the general upturn with increases ranging from 4,700 in South Carolina and 5,300 in Tennessee to 12,500 in Florida and 19,400 in North Carolina. The textile industry added 2,300 workers in September, but remained 26,000 below last year's level. The textile workweek also increased, lengthening by 0.7 hours to 39.3 hours in contrast to last year's 38.6 hours.

Egyptian Cotton Crop Sets Record

The 1958-59 cotton crop in Egypt, estimated at 2,045,000 bales, will be the second largest in 21 years according to officials in the Foreign Agricultural Service of the U. S. Department of Agriculture. Most of the gain is in extra-long staple Menoufi cotton. This will be some 80% ahead of a year earlier. Production of medium-long staple Giza cotton and all such long staples as Ashmouni is expected to drop.

The crop is 10% larger than 1957-58 and 37% larger than that of 1956-57. It is 26% ahead of the average production of 1,623,000 bales during the past five years.

Acetate Shipments Up In October

October shipments of acetate filament yarn and rayon (the cellulosic fibers excluding acetate staple+tow) amounted to 92,900,000 pounds, constituting the largest monthly figure this year, according to the *Textile Organon*, statistical bulletin of the Textile Economics Bureau Inc. Shipments last month exceeded those of September by 6½% and were composed of domestic deliveries of 91,700,000 pounds and exports of 1,200,000 pounds. Over the first ten months of 1958, shipments aggregated 801,200,000 pounds, a figure 10% below the 888,400,000 pounds shipped in the corresponding period of 1957.

In the latest month, shipments of high tenacity rayon yarn totaled 24,200,000 pounds, slightly below those of September. In the ten-month period shipments amounting to 219,200,000 pounds were 23% below those of last year.

October shipments of regular tenacity rayon yarn at 14,100,000 pounds were 9½% above September. For acetate yarn, October deliveries were 20,500,000 pounds, up 4% from the preceding month, and deliveries of rayon staple+tow totaled 34,100,000 pounds, the largest for any month since October a year ago.

Stock of acetate yarn and rayon in the hands of producers at the end of October totaled 104,200,000 pounds, representing a further decline in inventory from the high point of 126,700,000 pounds held at the end of March this year.

The *Organon* reports that rayon staple imports during August amounted to 6,737,000 pounds, a decrease of 5% compared to July. Cumulative imports for the first eight months of 1958 totaled 52,240,000 pounds, 11% less than the 58,969,000 pounds brought in during the comparable 1957 period.

Imports of non-cellulosic man-made staple during August

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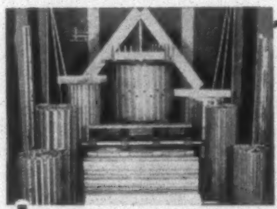

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totaled 132,000 pounds, an increase of 19% compared to the previous month. In the first eight months of 1958, shipments came to 1,007,000 pounds compared to only 331,000 pounds in the same period last year.

The *Organon* analysis of third quarter 1958 man-made fiber production reveals that total output (excluding acetate staple) amounted to 391,100,000 pounds, a 12½% increase over the second quarter total of 347,500,000 pounds, but 11% under the 439,800,000 pounds produced in the third quarter of 1957. Output in the latest quarter comprised 243,300,000 pounds of acetate yarn plus rayon, 122,000,000 pounds of non-cellulosic man-made fibers and 25,800,000 pounds of textile glass fiber.

Regular+intermediate tenacity rayon yarn output in the third quarter amounted to 37,900,000 pounds, up 7½% over the second quarter, high tenacity rayon yarn output was 62,900,000 pounds, an increase of 16½% and acetate filament yarn at 61,200,000 pounds was 11% over the second quarter. Output of rayon staple+tow during the July-September period totaled 81,300,000 pounds, a substantial gain of 22½% over the second quarter.

Shipments of rayon and acetate yarn in the third quarter amounted to 168,700,000 pounds, an increase of 15% over the second quarter, but total shipments for the first nine months of 1958 were 479,500,000 pounds, a decline of 10% from the 533,800,000 pounds shipped in the same period a year ago. The *Organon* notes that shipments of rayon and acetate "textile" filament yarns in the latest quarter were the best since the final quarter of 1956. Third quarter shipments were 4½% greater than those in the second quarter and 6½% above the third quarter of last year.

There was an increase in shipments to all trades from the second quarter to the third quarter, with the largest poundage increase going to tires and related uses which increased from 48,200,000 to 63,700,000 pounds over the period.

The *Organon* reports that output of non-cellulosic man-made fibers in the third quarter came to 122,000,000 pounds, a gain of 7½% compared to the preceding quarter but 9½% under the third quarter of 1957. Cumulative output for nine months this year amounted to 343,400,000 pounds, a decline of 10% from the corresponding period of 1957.

The entire gain in non-cellulosic fiber output in the latest quarter was in yarn+monofilaments where production totaled 84,100,000 pounds, an increase of 15% over the second quarter level. In contrast, output of staple+tow at 37,900,000 pounds was 5½% under the second quarter and the smallest quarterly output since the fourth quarter of 1956.

Textile glass fiber production in the July-September period was 25,800,000 pounds, a rise of 10% over the second quarter but 18½% below the record output of 31,700,000 pounds in the third period last year.

Tufted Textile Shipments Reported

Total shipments of tufted textile products amounted to $171.1 million during the first half of 1958. This compares to shipments of $187.5 million during the second half of 1957 and $168.8 million during the first half of 1957, according to the U. S. Department of Commerce.

The value of manufacturers' shipments of tufted rugs and carpeting during the first half of 1958 was $148.3 million. This represents a 4% decrease compared to the shipments for the previous half year, but a 3% increase when compared to shipments during the first half of 1957. Value of shipments of tufted rugs larger than 4 x 6 feet was 3% below the previous half year while shipments of tufted rugs 4 x 6 feet and smaller decreased by 7%.

The value of manufacturers' shipments of tufted bedspreads for the first half of 1958 was 4% lower than shipments during the comparable period of 1957. During the same periods, dollar shipments of tufted robes declined 19%.

Manufacturers consumed 137.0 million pounds of yarn and fabric for the production of tufted products during the first half of 1958. This was 19.0 million pounds less than the reported consumption for the previous half year. The consumption of cotton tufting yarn decreased from 33.5 million pounds to 29.0 million pounds, while the consumption of 100% rayon and acetate yarns decreased to 43.9 million pounds, from the 53.6 million pounds consumed during the last half of 1957. Wool yarns consumed in tufted products was 8.5 million pounds, while the consumption of other tufting yarns, which were primarily nylon and nylon and rayon mixtures, was 11.5 million pounds for the first half of 1958.

Woolen And Worsted Fiber Consumption

The weekly average rate of fiber consumption on the woolen and worsted systems in September was 2% above the August rate and 5% above that of September 1957.

The weekly average raw wool consumption during September was 7,390 thousand pounds (scoured basis) or 4% above the August level, and 7% above that of September 1957. Consumption of apparel class wool was 3% below the August level, and 1% below that of September of last year.

Consumption of carpet class wool was 15% above the rate of the preceding month and 21% above the September 1957 rate.

Consumption of fibers other than raw wool averaged 5,841 thousand pounds per week, or 1% below the August average but 3% above September 1957.

Cotton System Consumption Up

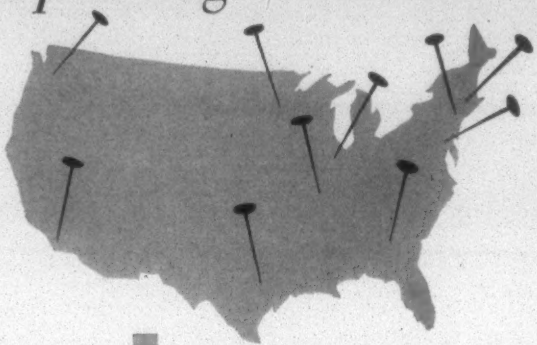
Total cotton consumption in the U. S. in the month of September was 647,894 running bales compared with 638,767 bales in August and 659,262 bales in September 1957. Of that total, cotton growing states accounted for 620,528 running bales and New England accounted for 23,635 bales. Total stocks at the end of the month was indicated at 8,699,565 bales and 7,284,540 bales were exported.

Some 5,704 bales of foreign cotton were consumed by the U. S. during the month as compared with 5,550 in September of last year. Stocks of 101,211 bales were reported.

Man-made fiber staple consumption totalled 37,204 thousand pounds in September against 35,750 thousand pounds in the same month last year. Stocks of man-made fibers were shown at 44,717 thousand pounds.

Cotton system spindles in place at the end of September totalled 20,666 thousand against 20,635 thousand at the same time last year. All figures are from the U. S. Department of Commerce.

Pinpointing textile orders



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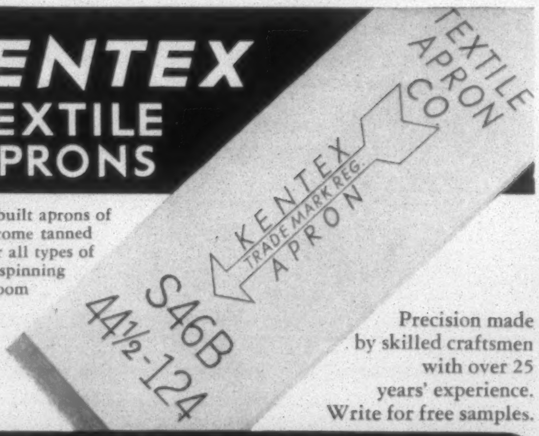

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textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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The Greenville Show: A Couple Of Parting Items

AS official registrar at the twentieth Southern Textile Exposition in Greenville last month, this journal is pleased to report an across-the-board increase in the number of "upper echelon" mill men in attendance at this year's show. Total attendance was listed at 40,000. Of this number, almost 10,000 fell into categories customarily associated with mill purchasing influence.

The accompanying table shows increases in each of four categories used in classifying attendance. In category A, made up of presidents, vice-presidents, secretaries, treasurers and purchasing agents, there were 705 visitors, an increase of 185 over the 1956 exposition. There were 444 more superintendents, assistant superintendents and managers (Category B) at this year's show; 1,147 more overseers, assistant overseers, foremen and supervisors; and 574 more master mechanics and engineers. Altogether there was an increase of 2,350 visitors in the four categories listed.

The figures bear out what many exhibitors said during the course of the show, that this year's exposition drew more than the customary assortment of top brass. The turn-out might well be termed a "sign of the times," reflecting as it does the more than usual interest on the part of mill men in ways and means to reduce costs and increase efficiencies. Judging from the interest shown in many of the exhibits, and also from the number of orders reportedly given at the show, the visiting mill men found solutions to at least some of their problems.

As at past Greenville shows, some exhibitors voiced a few complaints concerning the operation of the show itself. For example, it was again suggested from a number of sources that the management of Textile Hall Corp., sponsor of the event, is falling down on this business of registration. Visitors to the hall, it was pointed out, should be required to wear badges; and the general public should not be allowed to invade the hall in search of souvenirs.

The importance of item one to the exhibitors is obvious. They like to know who they are talking to—a potential customer, or a shoe salesman on his lunch hour? Then, too, the use of badges would permit visitors to come and

Breakdown of Attendance at the 1958 Southern Textile Exposition*

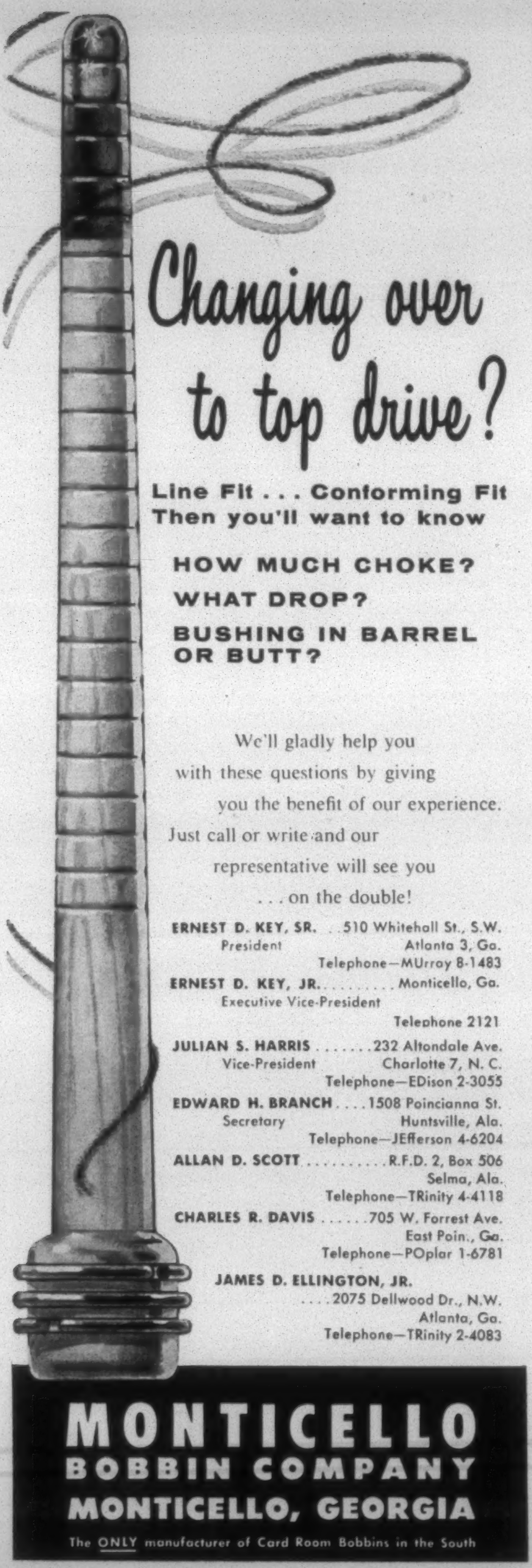
Classification	*1956*	*1958*	
A—Presidents, vice-presidents, secretaries, treasurers, purchasing agents	520	705	+ 185
B—Superintendents, assistant superintendents, managers	1,349	1,793	+ 444
C—Overseers, assistant overseers, foremen, supervisors	4,678	5,825	+1,147
D—Master mechanics, engineers	941	1,515	+ 574
TOTAL	7,488	9,838	+2,350

(The show was also attended by several thousand loom fixers, second hands, card grinders and other maintenance men, not included in this breakdown.)

Foreign Attendance

In addition to the above, attendance included mill executives from Canada, Mexico, Japan, Germany, Puerto Rico, Colombia, Cuba and Switzerland.

*Compiled from registration bulletins published and distributed at the show.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go as often as need be without having to fill out another card for admission. A single badge would be good for the entire week, whereas the present system requires re-registration each time a visitor enters the hall.

As for the horde of souvenir hunters, the curious housewives, the passing tourists, all these nice folk take up a lot of the walking and talking room the exhibition hall doesn't have. A more careful distribution of admission tickets as well as the use of admission badges could eliminate most of this unwanted traffic.

Neither of these suggestions is idle chatter. They come from exhibitors who know their way around trade shows, and know what it takes to run them smoothly. Textile Hall Corp. is duly proud of the progress the exposition has made over the years, and it is hoped that, with an eye to the future, its management will be receptive to these stepping stones to still further progress.

Who Is Kidding Who?

THE cotton ginning season is in full swing and it's a most appropriate time to do a little serious thinking about this most important operation. Mill men agree that excessive lint cleaning at the gin has a damaging effect on the cotton and should be held to a minimum. This view is held, of course, based on the manner in which the stock runs in the mill. Gin-damaged cotton runs badly, causes exaggerated ends-down, makes weak yarn and results in lower grade fabrics.

Modern ginning practices have dictated that lint cleaners be used in order to make cotton grade higher and, thereby, make the farmer's crop more valuable. The gin operator makes lint cleaner additions because the farmer is his customer and he believes in keeping his customers happy. On the surface, a greater price per pound of ginned cotton should do this. The facts that the mills don't want it and that it runs poorly may be considered by the ginner but he isn't really governed by them.

What are the real facts about lint cleaned cotton related to the farmer's pocketbook? A study was made this year to determine the effect of lint cleaning of machine-picked cotton upon grade, bale value and returns to farmers by the U. S. Department of Agriculture. This department of the federal government is in business to aid the American farmer so we have no reason to doubt the results of this study which are reported in "Marketing Research Report No. 238."

The San Joaquin Valley of California was selected as a site for the study since most of the cotton produced there is machine picked and almost all of it is ginned with the aid of lint cleaners. The study included four types of lint cleaners and resulted "on the average for all bales, in *reductions in average bale value* when weight losses from lint cleaning were taken into account." This statement is a direct quote from the report of the U.S.D.A. It proves that you can't make something out of nothing, no matter how many lint cleaners you have.

The average reduction in bale value for the four types of lint cleaners was: (1) controlled-bat saw-type—$1.40; (2) flow-through saw type—76 cents; (3) air-beater-cen-

"I thought this was supposed to be a TWO-way street!"

trifugal—38 cents; and (4) air-centrifugal—$1.06. Charges made by gins for the lint cleaning service would have to be added to these reductions to obtain the total cost to the farmer.

Once a lint cleaner has been installed in a gin, both the ginner and the grower prefer to use it on all bales because the procedure is simplified. According to the report, "Economic studies have indicated, however, that to be profitable, lint cleaners must be used selectively. Cleaning high-grade cotton usually reduces bale value because losses in weight more than offset gains in price per pound."

If something is done at the gin that is profitable neither for the farmer nor for the mill, then certainly it is wrong, wrong, wrong!

Cotton mills and cotton producers have a common competitor in man-made fibers. These fibers are many and varied. Each has its own built-in advantages and these advantages are being expounded to huge audiences on daily, weekly and monthly television shows. The impact of this advertising is bound to be extremely heavy and cotton will, of necessity, bear its brunt.

Is this the time for producers to try to fool the mills with artificially improved grades of cotton when, in reality, they are only fooling themselves? Of course not. "Market Research Report No. 328" had the crux of the real answer, maybe without even knowing it, tucked away on page five. "In terms of bale value, the potential advantages offered by relatively large premiums for higher grades were largely offset by the improved grade of the crop in 1955-56." It means that true profit can only be realized by improved cotton.

Cotton fabrics are facing stiff and increasing competition from man-made fiber fabrics. Cotton farmers are depending on lint cleaners to superficially improve their product's value instead of making real improvements which would aid the mills in making and selling cotton fabrics. If the situation doesn't change for the better, many of today's cotton farmers will be growing peaches and potatoes tomorrow.

Fabric Exhibition Held In New York

An exhibition of fabrics for the coming seasons has opened at the new main office of Union Dime Savings Bank, Avenue of the Americas at 40th Street, New York City. Ranging from Dacron to denim, percale to parachute, fire hose to tire cross-sections, and even swimming pool covers, the exhibit covers cloth from yarn to finished product, and shows the use of fibers and chemicals in textiles.

Over 230 fabrics for fashion, home and industry have been mingled in the show. The exhibit was made possible through the co-operation of 35 leading textile and chemical companies.

The exhibit will be open through January 16, 1959, Mondays through Fridays from 9:00 to 3:00, Thursdays until 6:30. Each day a different company among those participating will serve as host, with some of them planning special events for their particular days.

TEXTILE INDUSTRY SCHEDULE

— 1958 —

Dec. 6 (Sa)—**SOUTHEASTERN SECTION, A.A.T.C.C.**, Atlanta Athletic Club, Atlanta, Ga.

Dec. 6 (Sa)—Fall meeting, **PIEDMONT DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Johnston Memorial Y.M.C.A., 3025 North Caldwell Street, Charlotte, N. C.

— 1959 —

Jan. 26-29 (M-Th)—**PLANT MAINTENANCE & ENGINEERING SHOW**, Public Auditorium, Cleveland, Ohio.

Jan. 26-29 (M-Th)—**INTERNATIONAL HEATING & AIR CONDITIONING EXPOSITION**, Convention Hall, Philadelphia, Pa.

Mar. 12-13 (Th-F)—Annual Southern Spring meeting, **TEXTILE ENGINEERING DIVISION, A.S.M.E.**, The Clemson House, Clemson, S. C.

Mar. 19-21 (Th-Sa)—Annual convention, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Palm Beach Biltmore Hotel, Palm Beach, Fla.

Mar. 26-27 (Th-F)—Spring meeting, **TEXTILE QUALITY CONTROL ASSN.**, North Carolina State College, Raleigh, N. C.

Apr. 28-29 (Tu-W)—Technical Advisory Committee meeting and Board of Trustee Meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Apr. 29-30 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Fontana Village, N. C.

May 12-14 (Tu-Th)—**COTTON RESEARCH CLINIC** (sponsored by the National Cotton Council), The Grove Park Inn, Asheville, N. C.

May 18-23 (M-Sa)—**NATIONAL COTTON WEEK**, sponsored by the National Cotton Council of America.

June 18-20 (Th-Sa)—51st Annual Convention, **SOUTHERN TEXTILE ASSOCIATION**, The Ocean Forest Hotel, Myrtle Beach, S. C.

Sept. 10-11 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Textile Research Institute, Princeton, N. J.

Oct. 7 (W)—**CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Mayflower Hotel, Washington, D. C.

Oct. 8-10 (Th-Sa)—Annual national convention, **A.A.T.C.C.**, Sheraton Park and Shoreham Hotels, Washington, D. C.

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